





North Carolina State College
of
Agriculture and Engineering
of
The University of North Carolina

BASIC DIVISION
THE SCHOOL OF AGRICULTURE AND FORESTRY
DEPARTMENT OF EDUCATION
THE SCHOOL OF ENGINEERING
THE TEXTILE SCHOOL
GRADUATE INSTRUCTION
COLLEGE EXTENSION
THE SUMMER SCHOOL



1938-1939

APRIL, 1938
STATE COLLEGE STATION
RALEIGH

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COLLEGE CALENDAR

1938-39

1938

FIRST TERM

Sept. 8, Thursday, 3:00 p.m.	College Faculty Meeting
Sept. 9, Friday	Registration of Freshmen
Sept. 12, 13, Monday and Tuesday	Admission of students presenting credits for advanced standing
Sept. 14, Wednesday	*Registration of Sophomores, Juniors, Seniors, and Graduate Students
Sept. 15, Thursday	Class work begins
Sept. 24, Saturday, 12:00 Noon	Last day in the first term for registration or for changes in registration
Oct. 24, Monday	Mid-term reports due
Oct. 31, Monday	Final date for dropping a course without a grade of "F"
Nov. 11, Friday (not a holiday)	Observance of Armistice Day
Nov. 24, Thursday	Thanksgiving holiday
Dec. 14, Wednesday	First term ends

1939

SECOND TERM

Jan. 2, Monday	*Second term registration of all students
Jan. 3, Tuesday	Class work begins
Jan. 7, Saturday, 12:00 Noon	Last day in the second term for registration or for changes in registration
Feb. 6, Monday	Mid-term reports due
Feb. 13, Monday	Final date for dropping a course without a grade of "F"
Mar. 16, Thursday	Second term ends

THIRD TERM

Mar. 21, Tuesday	*Third term registration of all students
Mar. 22, Wednesday	Class work begins
Mar. 27, Monday	Last day in the third term for registration or for changes in registration
Apr. 24, Monday	Mid-term reports due
May 1, Monday	Final date for dropping a course without a grade of "F"
May 4, Thursday (not a holiday)	Observance of Scholarship Day
June 2, Friday	Third term ends
June 4, 5, Sunday and Monday	Commencement Exercises
June 12, Monday	*Registration for Summer School
June 13, Tuesday	Class work begins
July 21, Friday	Summer term ends

Final examinations are held on the five school days preceding the end of each term.

* An extra fee is charged for registration after the day designated for registration.

1938

JANUARY	APRIL	JULY	OCTOBER
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1939

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B.S., Virginia Polytechnic Institute; S.M.C.E., University of North Carolina.

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M.S., N. C. State College; graduate United States Naval Academy; graduate United States Submarine School.

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Central Station—Raleigh

F. E. MILLER.....	Director of Branch Stations
R. J. HARRIS.....	Assistant Director in Charge Central Station

BRANCH STATIONS*Blackland Test Farm—Wenona**

J. L. REA, JR.....	Assistant Director in Charge
A. P. LEFEVRES.....	Foreman
BRYAN HARRIS	Herdsmen

Coastal Plain Test Farm—Willard

CHAS. DEARING.....	Assistant Director in Charge
D. P. SOUTHERLAND.....	Foreman
R. T. CALDWELL.....	Dairy Herdsman
C. O. BOLLINGER.....	Poultryman

Mountain Test Farm—Swannanoa

S. C. CLAPP.....	Assistant Director in Charge
W. M. WHISENHUNT.....	Foreman
H. B. COULTER.....	Dairy Herdsman
G. K. JONES.....	Poultryman

Piedmont Test Farm—Statesville

J. W. HENDRICKS.....	Assistant Director in Charge
R. E. STITT.....	Assistant Agronomist, U. S. Department of Agriculture

Tobacco Test Farm—Oxford

E. G. MOSS.....	Assistant Director in Charge
JAMES F. BULLOCK.....	Assistant, Tobacco Investigations, U. S. Department of Agriculture
A. B. DEAN.....	Foreman

Upper Coastal Plain Test Farm—Rocky Mount

R. E. CURRIN, JR.....	Assistant Director in Charge
WM. ALLSBROOK	Herdsmen
J. P. YOUNG.....	Assistant, Tobacco Investigations, U. S. Department of Agriculture

* Workers and Branch Stations under authority of the State Department of Agriculture coöperating with the Agricultural Experiment Station in research.

OFFICERS AND STAFF OF THE NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE

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I. O. SCHAUB.....	Director
JOHN W. GOODMAN.....	Assistant Director
JANE S. MCKIMMON.....	Assistant Director
C. R. HUDSON.....	State Agent, Negro Work
A. F. BOWEN.....	Treasurer
M. L. SHEPHERD.....	Auditor
F. H. JETER.....	Agricultural Editor

AGRONOMY

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E. Y. FLOYD.....	Extension Tobacco Specialist
WM. D. LEE.....	Extension Soil Conservationist
E. H. MEACHAM.....	Assistant Farm Management Specialist Supervisor
W. H. PEARCE.....	Assistant in Farm Management
R. W. SHOFFNER.....	Assistant District Agent

ANIMAL HUSBANDRY

J. A. AREY.....	In Charge of Office of Dairy Extension
F. R. FARNHAM.....	Extension Dairyman
A. C. KIMREY.....	Extension Dairyman
W. L. CLEVINGER.....	Extension Dairyman
H. W. TAYLOR.....	In Charge of Office of Swine Extension
L. I. CASE.....	Extension Specialist in Beef, Cattle and Sheep

AGRICULTURAL ENGINEERING

R. G. BROADDUS.....	Assistant Engineer
H. M. ELLIS.....	Assistant Engineer
J. C. FERGUSON.....	Cotton Gin Improvement Specialist
D. E. JONES.....	Assistant Engineer
D. S. WEAVER.....	Extension Agricultural Engineer

ENTOMOLOGY

C. L. SAMS.....	Specialist in Beekeeping
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HOME ECONOMICS

MRS. CORNELIA C. MORRIS.....	Extension Economist in Food Conservation and Marketing
MISS MARY E. THOMAS.....	Extension Nutritionist
MISS SALLIE BROOKS.....	Assistant Specialist in Foods and Nutrition
MISS WILLIE N. HUNTER.....	Extension Specialist in Clothing

MISS JULIA McIVER.....	Assistant Extension Specialist in Clothing
MISS PAULINE GORDON.....	Extension Specialist in Home Management and House Furnishings
MISS MAMIE WHISNANT.....	Assistant Specialist in Home Management
MISS ANNA C. ROWE.....	Home Agent at Large

HORTICULTURE

H. R. NISWONGER.....	Extension Horticulturist
LEWIS P. WATSON.....	Extension Horticulturist

FORESTRY

R. W. GRAEBER.....	Extension Forester
RUFUS H. PAGE, JR.....	Assistant Extension Forester

POULTRY

T. T. BROWN.....	Assistant in Poultry Extension
C. J. MAUPIN.....	Assistant in Poultry Extension
C. F. PARRISH.....	In Charge of Office of Poultry Extension

MISCELLANEOUS

J. F. CRISWELL.....	Extension Economist in Farm Management
L. R. HARRILL.....	State 4-H Club Leader
MISS FRANCES MCGREGOR.....	Assistant 4-H Club Leader
J. W. JOHANSEN.....	Extension Economist for Organization and Credit
LUTHER SHAW.....	Plant Pathologist
GEO. B. LAY.....	Rodent Control Specialist

COUNTY AGENT WORK

DISTRICT AGENTS

JOHN W. GOODMAN, Assistant Director.....	Raleigh, N. C.
L. B. ALTMAN, Southwestern District.....	Raleigh, N. C.
O. F. MCCRARY, Northwestern District.....	Raleigh, N. C.
E. W. GAITHER, Southeastern District.....	Raleigh, N. C.
B. TROY FERGUSON, Northeastern District.....	Raleigh, N. C.
F. S. SLOAN, Western District.....	Franklin, N. C.

COUNTY AGENTS

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Alamance.....	J. W. BASON.....	Graham
Alamance.....	W. H. KIMREY (Assistant).....	Graham
Alamance.....	N. B. NICHOLSON.....	Graham
Alexander.....	J. P. LEAGANS.....	Taylorsville
Alleghany.....	R. E. BLACK.....	Sparta
Anson.....	J. W. CAMERON.....	Wadesboro
Anson.....	R. E. DAVENPORT (Assistant).....	Wadesboro
Ashe.....	C. J. RICH.....	Jefferson
Avery.....	C. B. BAIRD.....	Newland
Avery.....	J. E. PENLAND (Assistant).....	Newland
Beaufort.....	W. L. MCGAHEY.....	Washington
Beaufort.....	JAMES W. BALLENTINE (Assistant).....	Washington
Bertie.....	B. E. GRANT.....	Windsor
Bertie.....	R. D. SMITH (Assistant).....	Windsor
Bladen.....	J. R. POWELL.....	Elizabethtown
Bladen.....	R. M. WILLIAMS (Assistant).....	Elizabethtown
Brunswick.....	J. E. DODSON.....	Supply
Buncombe.....	A. W. NESBITT.....	Asheville
Buncombe.....	W. R. PALMER (Assistant).....	Asheville
Burke.....	R. L. SLOAN.....	Morganton
Cabarrus.....	R. D. GOODMAN.....	Concord
Cabarrus.....	J. E. WILSON (Assistant).....	Concord
Caldwell.....	O. R. CARRITHERS.....	Lenoir
Camden.....	T. McL. CARR.....	Camden
Carteret.....	J. O. ANTHONY.....	Beaufort
Caswell.....	H. L. SEAGROVE.....	Yanceyville
Caswell.....	J. E. ZIMMERMAN (Assistant).....	Yanceyville
Catawba.....	EARLE BRINTNALL.....	Newton
Catawba.....	G. R. MCCOLL (Assistant).....	Newton
Chatham.....	H. M. SINGLETARY.....	Pittsboro
Chatham.....	J. C. KEITH (Assistant).....	Pittsboro
Cherokee.....	A. Q. KETNER.....	Murphy
Cherokee.....	R. B. WOOTEN (Assistant).....	Murphy
Chowan.....	N. K. ROWELL.....	Edenton
Clay.....	G. H. WHEELER.....	Hayesville
Clay.....	W. D. JESTER (Assistant).....	Hayesville

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Cleveland.....	J. S. WILKINS.....	Shelby
Cleveland.....	J. L. REITZEL (Assistant).....	Shelby
Columbus.....	J. P. QUINERLY.....	Whiteville
Columbus.....	W. H. SHEARIN (Assistant).....	Whiteville
Craven.....	M. A. MORGAN.....	New Bern
Craven.....	PAUL M. COX (Assistant).....	New Bern
Cumberland.....	J. T. MONROE.....	Fayetteville
Cumberland.....	M. E. HOLLOWELL (Assistant).....	Fayetteville
Currituck.....	L. A. POWELL.....	Barco
Dare.....	C. W. OVERMAN.....	Manteo
Davidson.....	P. M. HENDRICKS.....	Lexington
Davidson.....	A. N. HARRELL (Assistant).....	Lexington
Davie.....	D. C. RANKIN.....	Mocksville
Davie.....	F. E. CORRELL, JR. (Assistant).....	Mocksville
Duplin.....	W. D. REYNOLDS.....	Kenansville
Duplin.....	G. E. JONES (Assistant).....	Kenansville
Durham.....	W. B. PACE.....	Durham
Durham.....	J. A. SUTTON (Assistant).....	Durham
Edgecombe.....	J. C. POWELL.....	Tarboro
Edgecombe.....	H. E. ALPHIN (Assistant).....	Tarboro
Forsyth.....	R. W. POU.....	Winston-Salem
Forsyth.....	C. L. DAVIS (Assistant).....	Winston-Salem
Franklin.....	E. J. MORGAN.....	Louisburg
Franklin.....	W. C. BOYCE (Assistant).....	Louisburg
Gaston.....	MAURY GASTON.....	Gastonia
Gaston.....	W. Z. SMITH (Assistant).....	Gastonia
Gates.....	JAS. T. COOPER.....	Gatesville
Graham.....	W. B. WIGGINS.....	Robbinsville
Graham.....	L. B. BARBEE (Assistant).....	Robbinsville
Granville.....	C. V. MORGAN.....	Oxford
Granville.....	W. B. JONES (Assistant).....	Oxford
Greene.....	E. V. VESTAL.....	Snow Hill
Greene.....	A. J. HARRELL (Assistant).....	Snow Hill
Guilford.....	J. I. WAGONER.....	Greensboro
Guilford.....	L. M. BOSWELL (Assistant).....	Greensboro
Guilford.....	H. H. TATUM (Assistant).....	Greensboro
Halifax.....	W. O. DAVIS.....	Weldon
Halifax.....	W. M. BRUCE (Assistant).....	Halifax
Halifax.....	F. W. REAMS (Assistant).....	Halifax
Harnett.....	C. R. AMMONS (Acting).....	Lillington
Harnett.....	J. B. GOURLAY (Assistant).....	Lillington
Haywood.....	R. R. SMITHWICK.....	Waynesville
Haywood.....	W. A. CORPENING (Assistant).....	Waynesville
Haywood.....	S. R. MITCHNER (Assistant).....	Waynesville
Henderson.....	G. D. WHITE.....	Hendersonville
Henderson.....	D. W. BENNETT (Assistant).....	Hendersonville

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Hertford.....	J. GORDON BLAKE.....	Winton
Hoke.....	H. L. MEACHAM.....	Raeford
Hyde.....	C. Y. TILSON.....	Swan Quarter
Iredell.....	A. R. MORROW.....	Statesville
Iredell.....	PAUL KISER (Assistant).....	Statesville
Jackson.....	G. R. LACKEY.....	Sylva
Jackson.....	H. R. CLAPP (Assistant).....	Sylva
Johnston.....	S. C. OLIVER, JR.....	Smithfield
Johnston.....	M. EDMUND AYCOCK (Assistant).....	Smithfield
Johnston.....	S. C. WINCHESTER (Assistant).....	Smithfield
Johnston.....	R. M. HOLDER (Assistant).....	Smithfield
Jones.....	F. F. HENDRIX.....	Trenton
Jones.....	C. D. RAPER (Assistant).....	Trenton
Lee.....	E. O. McMAHAN.....	Sanford
Lenoir.....	C. M. BRICKHOUSE.....	Kinston
Lenoir.....	O. R. FREEMAN (Assistant).....	Kinston
Lincoln.....	J. G. MORRISON.....	Lincolnton
Lincoln.....	GEO. B. HOBSON (Assistant).....	Lincolnton
McDowell.....	S. L. HOMEWOOD.....	Marion
Macon.....	S. W. MENDENHALL.....	Franklin
Macon.....	S. D. ALEXANDER (Assistant).....	Franklin
Madison.....	G. W. MILLER.....	Marshall
Madison.....	K. A. HANEY (Assistant).....	Marshall
Martin.....	T. B. BRANDON.....	Williamston
Martin.....	J. P. WOODARD (Assistant).....	Williamston
Mecklenburg.....	O. H. PHILLIPS.....	Charlotte
Mecklenburg.....	MAX CULP (Assistant).....	Charlotte
Mitchell.....	J. C. LYNN.....	Bakersville
Mitchell.....	F. L. WOODARD (Assistant).....	Bakersville
Montgomery.....	H. B. JAMES.....	Troy
Montgomery.....	J. L. RABON.....	Troy
Moore.....	E. H. GARRISON.....	Carthage
Moore.....	W. G. CALDWELL (Assistant).....	Carthage
Nash.....	J. S. SUGG.....	Nashville
Nash.....	R. F. SHEARIN (Assistant).....	Nashville
New Hanover.....	R. W. GALPHIN.....	Wilmington
Northampton.....	E. P. GULLEDGE.....	Jackson
Northampton.....	E. L. NORTON (Assistant).....	Jackson
Onslow.....	HUGH OVERSTREET.....	Jacksonville
Onslow.....	C. D. RAPER (Assistant).....	Jacksonville
Orange.....	DON S. MATHESON.....	Hillsboro
Orange.....	JOE N. HOWARD (Assistant).....	Hillsboro
Pamlico.....	A. T. JACKSON.....	Bayboro
Pasquotank.....	G. W. FALLS.....	Elizabeth City
Pender.....	R. R. RICH.....	Burgaw
Perquimans.....	L. W. ANDERSON.....	Hertford

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Person.....	H. K. SANDERS.....	Roxboro
Person.....	J. B. SNIPES (Assistant).....	Roxboro
Pitt.....	R. R. BENNETT.....	Greenville
Pitt.....	C. D. GRIGGS (Assistant).....	Greenville
Polk.....	J. A. WILSON.....	Columbus
Polk.....	C. H. KING (Assistant).....	Columbus
Randolph.....	E. S. MILLSAPS.....	Asheboro
Randolph.....	L. L. RAY (Assistant).....	Asheboro
Richmond.....	O. O. DUKES.....	Rockingham
Richmond.....	J. P. CHOPLIN (Assistant).....	Rockingham
Robeson.....	A. D. ROBERTSON.....	Lumberton
Robeson.....	R. B. HARPER (Assistant).....	Lumberton
Rockingham.....	F. S. WALKER.....	Reidsville
Rockingham.....	W. F. WILSON (Assistant).....	Reidsville
Rowan.....	D. H. SUTTON.....	Salisbury
Rowan.....	J. P. LEAGANS (Assistant).....	Salisbury
Rutherford.....	F. E. PATTON.....	Rutherfordton
Rutherford.....	J. W. WEBSTER (Assistant).....	Rutherfordton
Sampson.....	J. M. HENLEY.....	Clinton
Scotland.....	L. G. MATTHIS.....	Laurinburg
Stanly.....	JOHN W. ARTZ.....	Albemarle
Stanly.....	L. W. TROXLER (Assistant).....	Albemarle
Stokes.....	J. F. BROWN.....	Walnut Cove
Stokes.....	T. H. SEARS (Assistant).....	Walnut Cove
Surry.....	J. W. CRAWFORD.....	Dobson
Surry.....	A. P. COBB (Assistant).....	Dobson
Swain.....	BRYAN NESBIT.....	Bryson City
Swain.....	J. B. HIGHSMITH (Assistant).....	Bryson City
Transylvania.....	J. A. GLAZENER.....	Brevard
Transylvania.....	W. C. MANESS (Assistant).....	Brevard
Tyrrell.....	H. H. HARRIS.....	Columbia
Union.....	T. J. W. BROOM.....	Monroe
Union.....	T. M. MAYFIELD (Assistant).....	Monroe
Vance.....	J. W. SANDERS.....	Henderson
Vance.....	J. T. RICHARDSON (Assistant).....	Henderson
Wake.....	J. C. ANDERSON.....	Raleigh
Wake.....	G. M. SWICEGOOD (Assistant).....	Raleigh
Warren.....	R. H. BRIGHT.....	Warrenton
Warren.....	HUGH EVANS (Assistant).....	Warrenton
Washington.....	W. V. HAYS.....	Plymouth
Watauga.....	W. B. COLLINS.....	Boone
Watauga.....	H. M. HAMILTON (Assistant).....	Boone
Wayne.....	C. S. MINTZ.....	Goldsboro
Wayne.....	A. S. KNOWLES (Assistant).....	Goldsboro
Wilkes.....	D. F. HOLLER (Assistant).....	Wilkesboro
Wilson.....	W. L. ADAMS.....	Wilson

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Wilson.....	J. A. MARSH (Assistant).....	Wilson
Yadkin.....	L. F. BRUMFIELD.....	Yadkinville
Yadkin.....	R. A. MCLAUGHLIN (Assistant).....	Yadkinville
Yancey.....	G. W. SMITH.....	Burnsville
Yancey.....	R. H. CROUSE (Assistant).....	Burnsville
J. P. HERBING, County Agent at Large.....		Wilmington, N. C.

NEGRO COUNTY AGENT WORK

J. W. MITCHELL, District Agent, A. and T. College, Greensboro, N. C.

R. E. JONES, Negro Club Leader, Greensboro, N. C.

Negro County Agents

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Alamance.....	J. W. JEFFRIES.....	Graham
Anson.....	OTIS BUFFALOE.....	Wadesboro, Box 335
Bertie.....	J. C. HUBBARD.....	Windsor
Craven.....	OTIS EVANS.....	New Bern, Box 103
Durham.....	T. A. HAMME.....	Durham, Box 1015
Edgecombe.....	F. D. WHARTON.....	Bricks
Gates.....	H. L. MITCHELL.....	Gatesville
Granville.....	J. R. REDDING.....	Oxford
Guilford.....	W. B. HARRISON.....	A. & T. College, Greensboro
Halifax.....	D. J. KNIGHT.....	Enfield
Hertford.....	W. C. DAVENPORT.....	Winton
Iredell.....	E. C. LACKEY.....	Statesville
Johnston.....	McKAY McNEILL.....	Clayton, Rt. 1
Lenoir.....	P. G. FULLER.....	Kinston
Martin.....	OLIVER CARTER.....	Parmelee
Mecklenburg.....	I. D. L. TORRENCE.....	Charlotte, 229 E. Trade St.
Northampton.....	L. J. MORRIS.....	Rich Square
Orange.....	M. C. BURT.....	Hillsboro
Pasquotank.....	E. F. COLSON.....	Elizabeth City, Box 427
Person.....	C. J. FORD.....	Roxboro
Pitt.....	D. D. DUPREE.....	Greenville, Box 585
Robeson.....	S. T. BROOKS.....	Lumberton, Box 806
Rockingham and Caswell.....	C. S. FINNEY.....	Reidsville
Rowan.....	A. C. GRANT.....	Salisbury, 904 W. Monroe St.
Vance.....	H. E. WEBB.....	Henderson
Wake.....	M. H. CROCKETT.....	Raleigh, O'Kelly Bldg.
Warren.....	C. S. WYNN.....	Warrenton
Wilson.....	C. L. SPELLMAN.....	Wilson

HOME DEMONSTRATION WORK

MISS RUTH CURRENT, State Agent.....	Raleigh
MRS. ESTELLE T. SMITH, Southeastern District Agent.....	Raleigh
MISS ANAMERLE ARANT, Northwestern District Agent.....	Raleigh
MISS PAULINE SMITH, Northeastern District Agent.....	Raleigh
MRS. ESTHER GRAY WILLIS, Southwestern District Agent.....	Raleigh

HOME AGENTS

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Alamance.....	MISS ANNE BENSON PRIEST.....	Graham
Alexander.....	MISS AGNES WILLIAMS.....	Taylorsville
Anson.....	MRS. ROSALIND REDFEARN.....	Wadesboro
Avery.....	MRS. GEORGIA P. COHOON.....	Newland
Beaufort.....	MISS VIOLET ALEXANDER.....	Washington
Bladen.....	MRS. LILLIE L. HESTER.....	Elizabethtown
Brunswick.....	MRS. MARION DOSHER.....	Southport
Cabarrus.....	MRS. MARY L. MCALLISTER.....	Concord
Caldwell.....	MISS ATHA CULBERSON.....	Lenoir
Camden.....	MISS MARY TEETER.....	Camden
Carteret.....	MISS MARGARET CLARK.....	Beaufort
Caswell.....	MISS MAUDE SEARCY.....	Yanceyville
Catawba.....	MRS. MARIE COXE MATHESON.....	Newton
Chatham.....	MISS SALLIE SUE KOON.....	Pittsboro
Chowan.....	MISS REBECCA COLWELL.....	Edenton
Cleveland.....	MISS HILDA SUTTON.....	Shelby
Craven.....	MISS JESSIE TROWBRIDGE.....	New Bern
Cumberland.....	MISS ELIZABETH GAINES.....	Fayetteville
Currituck.....	MISS VIRGINIA EDWARDS.....	Currituck
Dare.....	MISS SADIE HENDLEY.....	Manteo
Davie.....	MISS FLORENCE MACKIE.....	Mocksville
Duplin.....	MISS JAYME MARTIN.....	Kenansville
Durham.....	MISS ROSE ELWOOD BRYAN.....	Durham
Edgecombe.....	MRS. EUGENIA VAN LANDINGHAM.....	Tarboro
Forsyth.....	MRS. ELIZABETH TUTTLE.....	Winston-Salem
Franklin.....	MISS LOUISE WEAVER.....	Louisburg
Gaston.....	MISS LUCILE TATUM.....	Gastonia
Gates.....	MRS. MARIE MITCHNER WOODARD.....	Gatesville
Graham.....	MISS PAULINE LENTZ.....	Robbinsville
Granville.....	MISS VIRGINIA WILSON.....	Oxford
Guilford.....	MISS ADDIE HOUSTON.....	Greensboro
Guilford.....	MISS RACHEL STONE (Assistant).....	Greensboro
Halifax.....	MRS. HAZEL ERVIN WHEELER.....	Roanoke Rapids
Harnett.....	MISS NAOMI CARR.....	Lillington
Haywood.....	MISS MARY MARGARET SMITH.....	Waynesville
Hertford.....	MISS FLORENCE COX.....	Winton
Hoke.....	MISS LORNA LANGLEY.....	Raeford
Iredell.....	MISS CAMILLE ALEXANDER.....	Statesville

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Jackson.....	MRS. MAMIE SUE EVANS.....	Sylva
Johnston.....	MISS RACHEL EVERETT.....	Smithfield
Johnston.....	MISS DOROTHY BROWN (Assistant).....	Smithfield
Jones.....	MISS LA UNA BRASHEARS.....	Trenton
Lee.....	MISS CORNELIA SIMPSON.....	Sanford
Lenoir.....	MISS MAY SWANN.....	Kinston
McDowell.....	MISS ANNE TUCKER.....	Marion
Macon.....	MRS. KATHERINE M. O'NEAL.....	Franklin
Martin.....	MISS LORA SLEEPER.....	Williamston
Mecklenburg.....	MRS. PAULINE W. TAYLOR.....	Charlotte
Montgomery.....	MISS MARTHA MCKINNON.....	Troy
Moore.....	MISS FLORA McDONALD.....	Carthage
Nash.....	MRS. EFFIE V. GORDON.....	Nashville
Nash.....	MISS ELLEN JENKINS (Assistant).....	Nashville
New Hanover.....	MISS ANN MASON.....	Wilmington
Northampton.....	MRS. MILDRED IVES MATTHEWS.....	Jackson
Onslow.....	MISS ISABELLE DUNN.....	Jacksonville
Orange.....	MISS GRACE E. HOLCOMBE.....	Hillsboro
Pamlico.....	MISS SEPHIE L. CLARK.....	Oriental
Pasquotank.....	MISS MAUDE L. HODGES.....	Elizabeth City
Pender.....	MISS DOROTHY HOWARD.....	Burgaw
Perquimans.....	MISS GLADYS HAMRICK.....	Hertford
Pitt.....	MISS ETHEL NICE.....	Greenville
Polk.....	MISS AGNES MCLEOD.....	Columbus
Richmond.....	MRS. ANNA LEA HARRIS.....	Rockingham
Robeson.....	MISS MARY HUFFINES.....	Lumberton
Rockingham.....	MISS MARJORIE HOLMES.....	Reidsville
Rowan.....	MISS NELL KENNETT.....	Salisbury
Rutherford.....	MISS RUTH MERRICK.....	Rutherfordton
Sampson.....	MISS MINNIE L. GARRISON.....	Clinton
Stanly.....	MISS LILLIE M. BRADSHAW.....	Albemarle
Surry.....	MISS VERNA STANTON.....	Mount Airy
Swain.....	MRS. GERALDINE P. HYATT.....	Bryson City
Union.....	MRS. PRATT C. MCSWAIN.....	Monroe
Vance.....	MRS. HATTIE F. PLUMMER.....	Middleburg
Wake.....	MRS. MAUDE MCINNES.....	Raleigh
Washington.....	MRS. FRANCES DARDEN.....	Plymouth
Watauga.....	MISS ELIZABETH BRIDGE.....	Boone
Wayne.....	MISS RUBY GERTRUDE BUNDY.....	Goldsboro
Wilson.....	MISS LOIS RAINWATER.....	Wilson

NEGRO HOME DEMONSTRATION WORK

MRS. DAZELLE F. LOWE, Negro District Home Agent, Greensboro, N. C.
 MISS WILHELMINA LAWS, Negro Subject Matter Specialist, A. & T. College,
 Greensboro, N. C.

Negro Home Agents

<i>County</i>	<i>Name</i>	<i>Postoffice</i>
Alamance.....	MRS. CARRIE S. WILSON.....	Graham
Bertie.....	MISS LILLIAN ANDREWS.....	Windsor
Craven.....	MISS MARIETTA MEARES.....	New Bern
Durham.....	ESTELLE T. NIXON, Rt. 2, Box 97.....	Durham
Edgecombe.....	MISS IDA MAE WILLIAMS.....	Bricks
Guilford.....	MISS ANNIE MURRAY.....	Greensboro
Johnston.....	MISS LUCY HICKS.....	Smithfield
Mecklenburg.....	MRS. MARGARET COLLINS ROGERS.....	Charlotte
Northampton.....	MRS. FANNIE T. NEWSOME, Box 62.....	Rich Square
Robeson.....	MRS. LILLIAN M. DEEMAN.....	Lumberton
Rowan.....	MRS. ANNIE J. JOHNSON.....	Salisbury
Wake.....	MRS. BEETHA MAYE EDWARDS.....	Raleigh
Rockingham.....	MISS WILLETTE TOWNS.....	Reidsville

GENERAL INFORMATION

HISTORY

The North Carolina State College of Agriculture and Engineering is the outgrowth of an idea fostered by two distinct movements, each somewhat different in its original aims. One movement, represented by a group of progressive young North Carolinians, banded together in Raleigh as the Watauga Club, sought to bring about the organization of an industrial school for the teaching of "woodwork, mining, metallurgy, and practical agriculture." The other movement, originating among the farmers in North Carolina, and actively sponsored by Colonel L. L. Polk, then editor of the *Progressive Farmer*, had as its object the establishment of an agricultural college supported by State appropriations and by the Land Scrip Fund of the Federal Government.

Through the efforts of the Watauga Club the Legislature of 1885 passed a bill, introduced by Mr. Augustus Leazar, the main features of which provided:

1. "That the Board of Agriculture should seek proposals of donations from the cities and towns of North Carolina, and when an adequate donation should be made by any city or town, there the school should be located, giving the place the preference which offered the greatest inducements."

2. "That the school should be under joint control of the Board of Agriculture and directors from such town or city."

3. "That instruction should be in woodwork, mining, metallurgy, practical agriculture, and such other branches of industrial education as may be deemed expedient."

4. "That the Board of Agriculture should be authorized to apply annually \$5,000 of the surplus funds of their department to the establishment and maintenance of said school."

Pursuant to the act of the General Assembly, when proposals for the school were advertised, Charlotte responded with the offer of an eligible site and \$5,000 in cash; Kinston offered \$10,000; Raleigh offered \$5,000 (increased subsequently to \$8,000), the Exposition Building at the State Fair Grounds, valued at \$3,000; one acre of land, donated by Mr. William Stronach, and the use of twenty acres of land by the Directors of the State Fair.

The location of the College in Raleigh was brought about largely through the efforts of the Industrial School Committee of the City Board of Aldermen. Members of this committee were Messrs. G. E. Leach, F. O. Moring, and J. Stanhope Wynne.

In April, 1886, the committee appeared before the Board of Agriculture and, on behalf of the city of Raleigh, increased the original offer of \$5,000 to \$8,000. The offer was accepted, and negotiations were pending for letting the contract to build when certain events occurred that changed the whole story of the institution.

Farmers' clubs through North Carolina, and Colonel L. L. Polk, through the columns of the *Progressive Farmer*, had, for some years, advocated the establishment of an agricultural college which would be supported, in part, by the Federal Land Scrip Fund. On the 18th of January, 1887, a mass meeting of the farmers, held in Raleigh, passed a resolution to the effect that the farmers needed an agricultural college, and "that the Land Scrip Fund be diverted from the University and applied thereto."

On January 18th the following resolution was adopted by the Raleigh Board of Aldermen:

"Inasmuch as the farmers' meeting, recently held in this city, composed of worthy citizens of many counties of the State, resolved to request the General Assembly to establish an Agricultural College, and as there exists a popular impression that the proposed institution will receive the sanction of the Legislature, and as the City of Raleigh has agreed to give the sum of \$8,000 in money, together with the building of the State Exposition, and by consent of the directors of the State Fair the use of about 20 acres of land for the establishment of an Industrial School and an experiment farm; and further, that inasmuch as Mr. R. Stanhope Pullen, a citizen of Raleigh, has, through our committee, offered to the Board of Agriculture, whose duty it has become under a statute of the State to appropriate the sum of five thousand dollars annually for the establishment and maintenance of an Industrial School, 8 2/3 acres of valuable land conveniently located for the said school; and finally, as the board believes there exists no good reason why the two enterprises should not be united, it is therefore *Resolved*, That the Board of Aldermen of the city of Raleigh, in view of the foregoing facts, and in order to meet the views of the most important class of our citizens, the farmers, has agreed that should the Legislature conclude to establish an Agricultural College that it would, in their opinion, be the part of wisdom, to accomplish the greatest good to all of our citizens, to unite the Agricultural and Industrial Schools; that should such a course be adopted, they recommend that the combined institution be called the College of Agriculture and Mechanic Arts of North Carolina.

"That should the said institution be established at or adjacent to Raleigh, on land which will be donated for this purpose, that the City of Raleigh will agree that the grants or offers heretofore made to and accepted by the Board of Agriculture shall be applied, with the consent of the said board, to such College of Agriculture and Mechanic Arts of North Carolina.

"*It is further Resolved*, That these resolutions and preamble shall be laid before the General Farmers' Convention, to be held in this city on the 26th Inst., for their consideration, and also before the appropriate committee of the General Assembly for their action thereupon.

"The Board of Aldermen learns and states with pleasure, by authority, that R. S. Pullen, who has heretofore offered the Board of Agriculture a tract of land of about 9 acres, which tender meets the approval of the

said Board of Agriculture, as the land lies conveniently near the State Experiment Farm, will, in case the above named Agricultural and Mechanical College be established in the same, donate about 60 acres of land, to include the 9 acres and connected therewith, to the State of North Carolina for the purpose of said College.

"The Board of Aldermen would, therefore, include this generous offer as a part of the grants heretofore tendered should the combined institution be established with the support of the State of North Carolina.

"The Board of Aldermen would respectfully state that it will meet their approval for the management of the proposed institution to be directed as the wisdom of the General Assembly may determine, and that the City of Raleigh does not insist that any part of the management of the same shall be put under its control."

Two days later, January 26, 1887, another great mass meeting of farmers and working men, called together in Raleigh by Colonel Polk from forty counties, passed the following resolutions:

1. "That the time has come to establish an Agricultural and Mechanical College in accordance with the Land Scrip Act.

2. "That the interest from the Land Scrip Fund should be paid to the College.

3. "That a sufficient amount from the general treasury be appropriated and available convict labor be used to build, equip, and maintain the College.

4. "That the surplus funds of the Agricultural Department be utilized in this connection.

5. "That the payment of the Land Scrip Fund to the College should not diminish the appropriations to the University.

6. "That the fund and property of the Industrial School, including donations of the City of Raleigh, in accordance with a resolution of its Board of Aldermen, be turned over to the proposed college."

The above resolutions were incorporated in a bill which passed its final reading before the General Assembly on March 3, 1887, and the new institution was established as the "North Carolina College of Agriculture and Mechanic Arts."

The dividing line between Pullen Park, the tract of land given to the City of Raleigh by Mr. R. Stanhope Pullen, and the sixty acres donated to the College by the same gentleman, together with the original walks and driveways, were located in this manner: Mr. Pullen walked ahead of a plow, held by a small Negro boy, and Mr. J. Stanhope Wynne led the mule over the lines indicated by Mr. Pullen.

The cornerstone of Holladay Hall was laid on August 22, 1888, the address being made by Mr. W. J. Peele, of Raleigh, one of the charter members of the Watauga Club and a staunch supporter of industrial education.

The College opened October 3, 1889, with seventy-two students and a teaching and administrative staff of eight. Alexander Q. Holladay was the first president, 1889-1899; followed by George Taylor Winston, 1899-1908; Daniel Harvey Hill, 1908-1916; Wallace Carl Riddick, 1916-1923; Eugene Clyde Brooks, 1923-1932.

The General Assembly of 1917 changed the name of the College to The North Carolina State College of Agriculture and Engineering.

In 1931 the General Assembly passed a law consolidating three of the State's institutions of higher learning. The first section of this law reads as follows:

"That the University of North Carolina, the North Carolina State College of Agriculture and Engineering, and the North Carolina College for Women are hereby consolidated and merged into 'The University of North Carolina.' " (Chapter 202, Public Laws of North Carolina, 1931.)

ORGANIZATION

The College comprises the School of Agriculture and Forestry, the School of Engineering, the School of Science and Business, the Textile School, the Department of Education, Graduate Instruction, College Extension, the Agricultural Experiment Station, the Agricultural Extension Service, and the Summer School. The Engineering Experiment Station is an integral part of the School of Engineering, and Textile Research of the Textile School. In each of the undergraduate schools are the departments which furnish the courses of instruction. The courses offered in each are grouped according to definite vocational aims, and students entering will be directed first to elect a vocation. This selection determines the program of studies to be pursued.

There are thirty-six major vocations open to young men in the State, for which State College offers from four to seven years training for technical, scientific, and professional service. Thirty years ago these vocations, when filled at all, were filled for the most part by unskilled workers. But the world has moved rapidly during this period of thirty years. Many new discoveries and inventions have been made, and many new social combinations have been effected, requiring a better understanding of human relationships and the need of business and social coöperation. As a result, there has developed a great body of technical and professional knowledge derived from new experiences, and leaders in these larger vocations must not only become masters of the essential technical and professional knowledge, but have a clearer understanding of the human relationships demanded in this age, because of the rapidly increasing tendency of human elements to coöperate in large organizations.

These vocations are classed today among the learned professions, and those who would become successful leaders must secure that broader cultural training which will equip them to participate properly in the civic affairs of their communities, because these vocations are having such a tremendous effect upon the civic life of our State and Nation.

LOCATION

The North Carolina State College is located within the limits of the City of Raleigh, a mile and a quarter west of the State Capitol. Of the four hundred and eighty-six acres of land owned by the College, thirty acres are in the campus, thirty-five in orchards and gardens, fifteen in the poultry yards, and the remainder in the experiment farm.

Varieties of possibilities in agriculture and engineering are found here or within easy reach. The workings of the State Government in all its functions, departments, and institutions can be observed at close range by the students of the College. Few colleges combine in equal degree the opportunities of the country and the advantages of a city as does State College.

BUILDINGS

Holladay Hall contains the executive offices of the Dean of Administration, the Registrar, the Treasurer, the Dean of Students, and the offices and classrooms of the Department of Education, and of the Reserve Officers Training Corps.

Peele Hall is a three-story building. It contains offices and classrooms of the School of Science and Business.

Primrose Hall has been remodeled for the use of the Department of Geology. It contains offices, classrooms, and laboratories.

Tompkins Hall is occupied exclusively by the Textile School for instruction and research. The building is equipped with a large variety of machinery and apparatus to be used in research and in teaching the latest processes of textile manufacturing and textile chemistry and dyeing.

Winston Hall contains the offices, classrooms, and laboratories for the departments of Chemistry and of Chemical Engineering.

Page Hall houses the department of Mechanical Engineering. It contains offices, drafting rooms, blueprint room, aeronautics laboratory, hydraulics laboratory and internal combustion laboratory, classrooms for Mechanical Engineering and for Mathematics.

Shops Building. The Shops Building is located south of Page Hall and contains the wood, foundry, forge, and machine shops, and the Mechanical Engineering Instrument Rooms and Laboratory.

Ricks Hall provides offices for the Coöperative Agricultural Extension Service, the Dean of Agriculture and Director of the Agricultural Experiment Station, the Department of Agricultural Economics, Department of Forestry and Poultry Department, together with classrooms and laboratories.

Patterson Hall is occupied by the departments of Agronomy and Botany.

The Zoology Building contains offices for the Director of Instruction of the School of Agriculture, and classrooms and laboratories for the Department of Zoology, and has a modern insectary.

The Ceramics Building contains classrooms, offices, a large machine laboratory with full-size equipment, a large kiln laboratory, and seven small laboratories for special equipment for instruction and research.

Polk Hall contains classrooms, offices, laboratories, and equipment for instruction and research in animal industry and in dairy manufacturing. It provides the classrooms, museum, and laboratories in instruction and research in Horticulture and Landscape Architecture.

The Electrical Engineering-Physics Building provides modern facilities for Electrical and Architectural Engineering and Physics. It contains classrooms, drawing rooms, offices, and laboratories designed for instruction and research in these fields.

The Civil Engineering Building houses the offices of the dean of engineering, the departments of Civil, Highway, Construction, and Sanitary Engineering, Industrial Engineering, and the Engineering Experiment Station.

The first floor is occupied on the south end by the Engineering Experiment Station, consisting of offices, laboratories, and museum, and the office of the N. C. Board of Registration for Engineers and Land Surveyors. The north end contains the highway laboratory and computation rooms, with modern equipment and apparatus for this division.

The east side provides for department shops and surveying instruments. On the second floor are the offices and classrooms, two large drawing rooms, a general assembly room, permanent record rooms, and blueprint room.

The D. H. Hill Library, completed in 1926, is a structure of recognized architectural beauty, designed in the post-colonial of the Jeffersonian period, the style of Monticello and of the buildings of the University of Virginia. It consists of a large portico of Georgia marble columns and the usual Colonial type of brick. It is simple and dignified in its treatment.

Pullen Hall, the College Auditorium, has a seating capacity of 1,000. The space on the lower floors contains classrooms and offices used by the department of English.

The Dining Hall consists of two wings, each 133 by 54 feet, connected by a large, well-equipped kitchen and serving pantry. In the basement there is a bakery, a cold storage plant, ample storerooms, and the College Laundry. In the dining-rooms there are accommodations for 1,600 students. There are operated in this building modern cafeterias, supplying to those students who do not care to avail themselves of the regular dining service a place to secure meals at moderate cost. The equipment throughout is of the latest type.

The Infirmary, a two-story brick building with wards, single rooms, diet kitchen and offices, is well equipped to care for student patients.

Owen Hall (formerly First Dormitory) provides offices for all student publications: *Agriculturist*, *Agromeck*, *Southern Engineer*, *Technician*, and *Wataugan*. The building also provides headquarters for Student Government.

The Frank Thompson Gymnasium, opened for use in 1924, is one of the largest and best-equipped gymnasiums in the South. The gymnasium proper has a playing floor 110 x 130 feet, large enough to accommodate three full-size basketball courts. About 2,500 spectators can be seated at indoor contests. In addition, there is an auxiliary gymnasium which is used for recreation by the students and faculty members and by the smaller classes in physical training. The swimming pool, 75 x 35 feet, handsomely tiled, is located under its own glass roof, but is connected with the basement proper, which contains ample showers, lockers, store-rooms, varsity training rooms, and rooms for visiting athletic teams. Classrooms and offices are on the first floor.

The Young Men's Christian Association Building is the home of the greater part of voluntary student activities. The main floor has a large lobby, with open reading and game rooms, an auditorium, a banquet hall, several bedrooms for visitors, and offices of the association and of the College publications. The upper floor contains two large society halls and rooms for Bible study classes. The Students' Supply Store is on the ground floor.

The Central Heating Plant furnishes light, heat, and power to all the buildings. The plant and its equipment are of modern type, and so arranged as to be used for instruction.

Barns, Greenhouses, and Poultry Plants. In addition, there are a number of service buildings for the different departments of the College. The College barns house the dairy herd, the work animals, and the sheep and swine herds. There are six greenhouses on the campus operated in conjunction with the instruction and research in horticulture, zoology, and botany. A poultry plant is provided, with ample facilities including an incubator and feed house, judging laboratory, and a fattening and storage house. Breeding houses for special matings and experimental work and four large houses in which the four special strains of S. C. Rhode Island Red, White Wyandotte, S. C. White Leghorn, and Barred Plymouth Rock are bred.

College Warehouse. This building contains the Manager's office of the Service Department and Superintendent of Buildings, room assignments and supplies for Central Plant.

THE DORMITORIES

The College has sufficient dormitory space to house comfortably a thousand students. The dormitories are operated under the direction of the Superintendent of Buildings.

FRESHMAN HOUSING

Freshmen, with the exception of certain self-help students and those students desiring to live with relatives, are required to room in the Freshman Quadrangle, consisting of Fourth, Fifth, Sixth, and South Dormi-

tories. A group of faculty members and appointed seniors with high rating live in the Quadrangle to serve as personal counsellors to new students.

Fourth Dormitory contains rooms with hot and cold running water, and new bathrooms, conveniently located, have been installed. The building is three stories in height and accommodates 46 students.

Fifth and Sixth Dormitories, each three stories in height, provide quarters, together, for 144 students. Bathrooms are located on each floor, and both buildings are of fireproof construction.

Seventh Dormitory is three stories high and has one hundred rooms, and will accommodate 200 students. Each room has running water, and tiled bathrooms are located in each section on each floor. The building is of fireproof construction.

South Dormitory is four stories in height and accommodates 228 students. There is a tiled bathroom in each section.

1911 Dormitory has three stories and houses 240 students. Its remodeling was completed in the summer of 1930.

Watauga Hall has 54 rooms, is three stories high, and accommodates 108 students. Tiled baths are installed, and with its central location it is now one of the most desirable college homes on the campus.

LABORATORIES, SHOPS. AND FACILITIES

Agricultural Economics and Rural Sociology

The Department of Agricultural Economics and Rural Sociology is supplied with modern laboratory facilities. The department has at its disposal several large well-lighted rooms for offices, classrooms, and laboratories. By special arrangement with one of the large calculating manufacturing companies, the supply of calculators is adjusted to the need for them. In addition the department is supplied with adding machines and other calculating devices, including an 80-column Hollerith tabulating and sorting machine. Charts on practically every phase of agricultural economics are in the possession of the department or are available to it through the courtesy of the United States Department of Agriculture. A large number of maps of farms located in various parts of the State are also available for study and to use for purpose of illustration of principles and practices. For the study of farm management and farm organization, the department has collected during the past five years detailed records on approximately one hundred farms. An up-to-date file of bulletins is maintained for reference, covering all phases of agricultural economics and rural sociology.

In reality, the State is a laboratory of the department. The department is constantly making studies in economics of production, marketing, finance, taxation, and prices, as well as studies in such rural social problems as rural population, rural organization, family living, and community life. All of these studies furnish material for the student, and

also for the instructor in preparing and developing the courses of instruction. It is significant to note that much of this work is done in coöperation with the United States Department of Agricultural Economics and other agencies of the Federal government. This arrangement brings the student in contact with various governmental officials and also supplements the department's personnel.

Agricultural Engineering

The offices, classrooms and shops devoted to Agricultural Engineering are located in Patterson Hall and the Shops Building. The laboratories are equipped with the latest labor-saving farm equipment for seedbed preparation, planting, cultivating, harvesting, and crop preparation practices. These machines are furnished by the leading farm machinery manufacturers of the nation, and are replaced from time to time as new improvements are developed. Special effort is made to have on hand all types of farm equipment suitable for use in the best practices in the production of farm crops.

Farm conveniences in the form of water systems for the home and farm, individual electric light plants, farm gas engines, tractors, septic tanks, etc., are well represented.

The Farm Buildings Laboratory is equipped with drawing tables, supply cabinets, and models of all types of farm buildings construction.

Laboratory equipment for soil conservation work as related to terracing, gully control, etc., consists of well-equipped sets of surveying and leveling instruments.

Field areas in crops, vineyards, orchards, and pastures are available for practice work in the use of farm equipment, and for drainage and erosion control practices.

A complete bulletin library of agricultural engineering material is maintained for student reference.

Agronomy

Field Crops.—The equipment for teaching Field Crops consists of standard apparatus and official types for the study and determination of the market grades of cotton, tobacco, corn, small grains, and forage crops. Other equipment consists of a specimen garden located on the College farm; specimens of cultivated varieties of field crops and their seeds.

Soils.—The soils laboratories are equipped with the facilities for instruction in general and advanced work in soil management, soil fertility, fertilizers, and in soil classification and surveying. Samples of most of the North Carolina soil types as well as many samples from other states are available for study. The information on the classification, distribution, composition, crop adaptation, and fertilizer requirements of North

Carolina soils which has been accumulated by the Experiment Station affords valuable material for student use. Facilities for field and laboratory work on the physical and chemical properties, classification, and fertility of North Carolina soils are unusually good.

Animal Husbandry

The space devoted to Animal Husbandry is equipped to instruct students in the profitable types of farm animals, how to handle them so as to get the best returns, how to select breeding stock, and how to feed all classes of farm animals. The students in this department feed and prepare animals for the block, actually doing the slaughtering, and cutting the meat to be sold in a market which is conducted by the students.

The dairy barns contain more than seventy registered cattle representing four breeds. In many ways the herd of dairy cattle owned by this institution is one of the best to be found. A sufficient number of swine are kept to give the students practice in every phase of the industry. The same is true of horses, sheep, and beef cattle.

The dairy is especially well equipped with modern machinery to give instruction in the testing of milk and its products, creamery buttermaking, ice cream making, and in the handling of market milk. There is adequate refrigerating equipment for cold storage of meats as well as dairy products.

Architectural Engineering

For instruction in Architectural Engineering there are provided: a working library of books, measured drawings and plates for reference and research, and a large collection of lantern slides to supplement the lectures on historical architecture. Freehand drawing and rendering are taught with the aid of casts and models provided for this purpose.

The department has taken over the entire top floor of the Electrical Engineering-Physics Building. This provides three commodious drafting rooms, a studio and freehand drawing rooms, a large and well fitted lecture and stereopticon room, and an adequately equipped photographic laboratory.

Botany

Well-lighted laboratories are available, equipped with tapering tables for microscopic work. The bacteriology rooms are supplied with the necessary autoclaves, ovens, and incubator space. The plant physiology laboratory has a greenhouse adjoining it, which is equipped with tables for experimentation in addition to the regular benches. An additional greenhouse is available for plant disease research. The necessary herbaria have been developed to adequately support the various botanical courses. A botanical library is open for student use.

Ceramic Engineering

The Department of Ceramic Engineering occupies its own building, in which is located classrooms, a design room, graduate research laboratory, grinding and forming laboratory, glaze laboratory, screen room, drying laboratory, plaster and mold room, and kiln laboratory.

The Ceramic Engineering laboratories are well-equipped for experimental, testing, and research work. New additions to the apparatus each year assure the student of contact with the latest advances in ceramic equipment and processes.

The laboratories are equipped to produce, on a laboratory scale, structural clay products, pottery and whitewares, glasses, refractories, metal enamels, insulating materials and cements and plasters.

Equipment consists of crushers, gyratory and vibrating screens, blungers, a dry and wet pan grinder, hydraulic and hand presses, a laboratory auger machine with deairing attachment, filter press, ball mills and glaze and enamel equipment.

In the drying laboratory are electric and closet dryers fully equipped with control instruments.

In the kiln room is a large down draft kiln, a muffle kiln for glazing and enameling, a load test furnace, three high temperature furnaces, an expansion furnace and an assay furnace. The kilns and load furnace are equipped with the latest type Maxim Premix gas burners. All kilns and furnaces are equipped with draft gauges and temperature measuring instruments.

The graduate research laboratory is completely equipped for making silicate analyses and contains balances, microscope, volumeters, potentiometer and an electric furnace.

Chemical Engineering

The laboratories of the Department of Chemical Engineering occupy the ground floor of Winston Hall. The available space has been divided into an exhibit room; Water and Engineering Materials laboratory; Electrochemical Engineering laboratory; Fuel and Gas Technology room; Oil and Hydrogenation laboratory; Experimental Rayon plant; Destructive Distillation installation; dark room for metallographic and micro-photographic study; the Graduate Research laboratory; Unit Processes laboratory; plant and equipment design laboratory; cellulose laboratory.

The Chemical Engineering laboratories have suitable equipment, much of it specially designed, for the study of the main processes and plant problems of the chemical engineering industries. They are supplied with direct and alternating current, gas, water, steam, compressed air, electric motors, generators, and storage batteries. They are equipped with precision and control instruments, such as refractometer, surface tension apparatus, polariscope, potentiometer, microscope, colorimeter, calorimeters, tint-photometer, thermocouples, and optical pyrometer. They

are equipped also with filter presses, centrifuges, crushers, grinders, and pulverizers, vacuum pan, stills, autoclave, jacketed kettle, gas, water, and electrical meters, equipment designed and built such as double effect evaporators, heat exchangers, flow of fluid experimental equipment for orifice, venturi, pitot, weir gauges, column still, absorption tower, crystallizer, rotary and tunnel driers, gas furnace, resistance and arc electric furnace, and humidifier. An experimental refinery and hydrogenation plant for vegetable and other oils has been installed. A complete permutit water-softening equipment forms a unit of an experimental water purification and treatment system. In addition, the industrial plants of the city offer opportunity for study of plant operation and problems.

There has been recently added to the department of Chemical Engineering a valuable exhibit room, where products of many of the Chemical Engineering industries are exhibited. These exhibits are used for instructional purposes and serve to give the student very valuable training. These exhibits are arranged in the form of flow sheets showing the various steps in manufacturing processes.

The department shop is supplied with machines and tools for building and repairing equipment.

Chemistry

The Department of Chemistry occupies Winston Hall. There are laboratories for Inorganic, Organic, Physical, Qualitative and Quantitative Analysis, and Research. All these laboratories are supplied with the necessary apparatus, chemicals, and suction hoods, and all have convenient gas, water, and electric connection.

The Chemical Library is well supplied with reference books and chemical journals.

The Chemical Museum contains specimens of the more common minerals, ores, and chemicals, together with many industrial, chemical, and allied products.

There is special equipment for research work by graduate students.

Civil Engineering

The Department of Civil Engineering is located in the new Civil Engineering Building. This building is newly furnished with facilities for taking care of the work; classrooms, laboratories, drawing rooms, and offices. The equipment includes surveying instruments, transits, levels, plane tables, current meters, sextants, planimeters, calculating machines, and blue-printing apparatus.

Construction Engineering

The equipment of the Department of Civil Engineering is available for instruction in Construction Engineering. In addition there is provided a complete file of trade literature and publications, a collection of lantern slides to supplement lectures, and a series of drawings and blue-prints for investigation.

Electrical Engineering

Instruction in Electrical Engineering is given in the Electrical Engineering-Physics Building, which contains the offices, well-arranged recitation rooms, an excellent computing room, a large lecture room, and several laboratories.

The Machine Laboratory, sixty by eighty feet, is supplied with power from the college plant, and also through a direct connection with the lines of the Carolina Power and Light Company; two banks of transformers supply two and three phase power, at standard voltages, to any point in the laboratories and lecture rooms. Direct current power is supplied through motor-generator sets and a rotary, with a combined rating of 150 kilowatts. About 300 Kv-a. in generators and motors and 150 Kv-a. in transformers are available for testing and for demonstrations.

A gallery running around the laboratory provides rooms for research and other special investigations; two laboratories with a floor space of fifteen hundred square feet are devoted to electric and magnetic measurements and standardization. An excellent equipment of meters and instruments facilitates the work in the laboratory. In addition, there is a laboratory well equipped with bar, portable and integrating photometers; one for the study of communication systems and high voltage line performances; one for oscillographic measurements, a small shop and a good storage battery equipment.

Engineering Experiment Station

The laboratory of the Engineering Experiment Station is located in the south end of the Civil Engineering Building. It is equipped with machines and apparatus for making many of the physical tests on materials, such as stone, brick, wood, and steel. There are two Olsen Universal Testing Machines, one a hand-operated machine of 15,000-pound capacity, and a 150,000-pound electrically driven machine. There are also grinding and shaping machines, diamond core drill, a stone cutting saw, brick rattler, a Deval machine, and numerous smaller pieces of apparatus. The laboratory contains also an improved drum dynamometer, a tire tester, and a road test truck. All of the equipment in the laboratories of the several engineering departments is available for experiment and tests undertaken by the Engineering Experiment Station.

Forestry

Some of the field work of the Department of Forestry is now carried on at the Camp Polk prison farm near the State Fair Grounds, which has a thousand acres of timber land. The supervision of the timber is handled by class projects.

The Poole Woods, six miles east of Raleigh, is a virgin tract containing stands of short-leaf and loblolly pine. This is an area of seventy-five acres that has been acquired for a laboratory and as a last remnant of the virgin stand of timber in this locality.

The George Watts Hill Demonstration Forest, near Durham, is a tract of 1,400 acres which has been given to the College. It contains stands of short-leaf, loblolly pine, oaks, gum, tulip, dogwood, and all of these species in different associations. It is rolling country and serves admirably for the study of forest problems in the Piedmont section.

The MacLean Forest located in Hyde County, in the eastern part of the State, is in the typical Coastal Plain region. It contains 1,554 acres and is used for demonstration work in the east coast type.

A large tract of land has recently been acquired in Jones and Onslow counties in the southeastern part of the State, which consists of more than 84,000 acres and has the various types of timber found in this region. The large areas of virgin timber make a very complete laboratory for studying forest development and succession.

In all, the Forestry Department has available about 87,000 acres on which to do field work, demonstration, and research. These areas include the various types found in North Carolina with the exception of the mountain conditions.

The Arboretum area of seventy acres near Raleigh is being developed into an arboretum containing all of the three species and associated shrubs that grow in this climatic condition. It contains swamp land and upland which adapts it for this use. More than one hundred tree species have been planted in this area.

The Wood Technology Laboratory contains a representative collection of the more common woods and will be gradually extended.

The Timber-Testing Laboratory, in connection with the Engineering Experiment Station, contains the machines for the various timber tests.

Greenhouse space is available for special problems in forest research.

Geological Engineering

The Department of Geology occupies Primrose Hall, which contains classrooms, laboratories, and offices. The equipment includes a varied collection of rocks and minerals for teaching the various phases of geology, laboratory equipment for making qualitative chemical and blowpipe examination of rocks and minerals, microscopes and other optical equipment, a machine for making thin sections of rocks and minerals, geological models, and a collection of topographic maps and geological folios illustrating important features of topography and geology.

Highway Engineering

The equipment at the College for instruction in Highway Engineering is fairly complete, and is constantly being added to and enlarged. The Materials Testing Laboratory in the new Civil Engineering Building is fully equipped for testing all materials used in road building; there is full field equipment for surveys, and modern drawing rooms provided with the necessary furniture and instruments. There is also a large lecture room fitted for the use of lantern slides and motion pictures.

Horticulture

The Department of Horticulture is well equipped in classrooms, laboratory, and field equipment to offer instruction in the several important and diverse fields of horticulture.

Pomology and Small Fruit Culture. The College orchards and vineyards, the laboratories, orchard equipment, a nursery plot, and other facilities are available to treat every phase of fruit-growing from the selection and propagation of varieties to the details of orchard management.

Olericulture and Floriculture. Two modern greenhouses are an important part of the equipment of the department, and are used primarily for experimental and instructional work in these two important and growing fields of horticulture. Potting rooms, propagation benches, and other more specialized equipment are used to offer both undergraduate and graduate instruction. Land and equipment to demonstrate and study details of commercial olericulture are convenient to the greenhouses.

A physiological laboratory, cytological laboratory, calculating machines, library, greenhouses and land are available to graduate and undergraduate students to carry on special studies. Experiment Station projects conducted by the Experiment Station Staff are also available for study and observation.

Landscape Architecture

General equipment and facilities for instruction are amply provided for in the combined resources of the Department of Civil and Architectural Engineering, and Horticulture.

Special equipment and facilities provided by the Department of Horticulture include nursery and tree-surgery tools, instruments, and supplies; drafting rooms with necessary furniture; poles, pins, and tapes for simple measurements and laying out work on the ground; planimeters and slide rule for use in making estimates; periodicals, illustrated folios, nearly six hundred lantern slides; and a first-class nucleus of a standard professional library on the subject.

In Plant Materials extensive collections on the College grounds and at various points in the city furnish an ample supply of all kinds of these materials for both study and use. In addition there are several collections within easy reach for occasional visits and study.

In Design and Construction the College grounds, private properties, and numerous public and semi-public areas and institutions in and about the city provide a wide range of subjects for study and practice. The City of Raleigh itself is a most interesting subject for study in connection with the course in City Problems, since it is one of the very few existing examples of a capital city which was planned in advance of its building.

Mechanical Engineering

The Department of Mechanical Engineering is located in Page Hall. This building is completely furnished and includes the offices for the members of the teaching staff and classrooms and drafting rooms.

Drafting Rooms. The drafting rooms are equipped with tables, stools, cases for boards, reference files, and models. The senior drafting room has two Universal Drafting Machines in addition to other necessary equipment. The blueprint room contains a blueprint machine and sheet washer in addition to sun frames.

Shops. The Shops Building contains the offices of the instructors in the shops and also contains completely equipped shops for instruction purposes.

The Wood Shop is equipped with a large variety of modern machines, such as: lathes, combination saw, dado saw, cut-off saw, jointer planes, mortisers, sanders, moulder, sticker, trimmer, shaper, boring machine, band saw, jig saw, all kinds of clamps, a glue room with electrical glue heater, and other essentials that go to make an up-to-date shop. These machines are driven electrically with either individual or group motors. There are many work benches, and much auxiliary equipment.

The shops and the shop recitation room are well lighted, heated, and ventilated.

The Foundry Equipment consists of a 36" cupola, a 14" cupola, brass furnace, core oven, core machine, molding machines, cleaning mill, motor-driven elevator, emery wheel and buffer, and the necessary tools and patterns for practical molding.

The Forge Shop is equipped with forty anvils and forges, the blast for the forges being produced by a large power blower and regulated by an individual control on each forge easily accessible to the operator. The shop is also equipped with a modern down-draft type exhaust system, thereby eliminating all overhead pipes which would interfere with the proper and efficient lighting of the shop. Other equipment consists of: a special gas furnace for the heat treatment of steel, an oxy-acetylene welding outfit, drill press, iron shears, vises, emery wheel and other necessary forging equipment.

Laboratories. The Aeronautics Laboratory is located on the basement floor of Page Hall. This laboratory is equipped with a thirty-two inch vertical return wind tunnel, using the National Advisory Committee on Aeronautics' system of balances. The arrangement of the tunnel is such that the National Physics Laboratory system may be used and with wind velocities up to sixty miles per hour. A complete set of flight instruments is available for study, experimental, and test purposes. The laboratory houses, in addition to the major components of many well-known airplanes, a complete airworthy biplane. Because the internal combustion engine and hydraulics laboratories are adjacent, aircraft engine testing and hydronamics are included in the Page Hall Laboratories.

The Mechanical Engineering Laboratories are equipped with instruments and apparatus for making coal and gas analyses, oil tests, and steam, gasoline, and oil engine efficiency and economy tests. The steam engines installed include plain slide valve, automatic cut-off, and uniflow engines. The latter operates a two-stage air compressor. There is also a triple expansion marine engine and a turbo-fan set. The Power Plant is equipped and used for complete boiler, steam engine, and turbo-generator tests. The laboratory is also equipped with 50,000 and 15,000-pound materials testing machines.

The Metallurgy Laboratory is well equipped for advanced work dealing with the structure and physical properties of metals and alloys. The equipment includes an electric heat-treating furnace with rheostat control, pyrometers of the optical and thermocouple types, complete apparatus for the polishing and etching of specimens, including a three-wheel polishing machine, metallurgical microscopes fitted with a variety of lens combinations, dark rooms for photographic work and photoelastic equipment.

A complete laboratory for heating and ventilation work is in the process of development.

Physics

The Physics Department occupies the north end of the new Physics and Electrical Engineering Building. The design of laboratories and classrooms and the modern furniture make for high teaching efficiency. Laboratories and lecture tables are served by complete distributing systems for gas, water, and electricity, the latter connecting with the central power room and switchboards of the department and the power house. Six smaller rooms are provided for private research.

In apparatus the department is especially well equipped for laboratory work and for advanced research. A bequest of the late William Kearney Carr added much to the general collection of demonstration apparatus and facilities for research in X-rays and in Sound. Duplication of the most modern types of laboratory apparatus has made it possible to have the whole of each class working on the same experiment simultaneously. A library of Physics periodicals has been kept for many years, affording ready reference for those in research.

Located on the top of the Physics-Electrical Engineering Building is the Astronomical Observatory. Under the dome is a 5-inch equatorially mounted refracting telescope. Beside it is the chart, instrument, and radio room, making a good equipment for the teaching of General Astronomy. Also the latest type of radio receiving apparatus is installed in this room for use in connection with research and the radio laboratory below.

Poultry Science

The College maintains a modern poultry plant with four major breeds of poultry as best adapted to North Carolina conditions. Facilities for practical experience and teaching have been stressed in the construction of this plant, students having opportunities to observe and carry out feeding and feed mixing, selection and mating of poultry, culling, incubating and brooding, fattening, caponizing, and various methods and practices of marketing. The plant contains 23 acres, has four commercial houses, 24 brooding and rearing houses, and a capacity of 1,800 birds.

In conjunction with the production plant a special disease plant is maintained in which investigational work is carried out on the poultry disease problems of North Carolina.

In Ricks Hall the department maintains a poultry disease research laboratory, a diagnostic laboratory, candling and grading room, sticking and picking laboratory, incubation room, disease museum, seminar room and educational laboratories.

Sanitary Engineering

The equipment of the Department of Civil Engineering, including the Materials Testing Laboratory, is available for instruction in Sanitary Engineering. Equipment is provided for routine chemical and bacteriological tests for the proper control of Water Purification and Sewage Disposal Plants. The Raleigh Water Purification Plant and the gymnasium swimming pool filter plant are available for practical instruction and demonstration. Coöperation with the Bureau of Sanitary Engineering of the State Board of Health, which is located in Raleigh, offers an exceptional opportunity for the study of all phases of Sanitary Engineering.

Textiles

In equipping the Textile School with machinery the aim has been to secure, as near as possible, ideal mill conditions. The essential principles of cotton yarn and fabric manufacturing can be fully illustrated on any of the standard machines, but in order to have ideal mill conditions, machines from different makers are included in the equipment so that the students may have the opportunity of becoming familiar with all the standard makes of textile machinery.

Carding and Spinning. For the purpose of giving instruction in the manufacture of fine and coarse yarns, a full equipment of the necessary machinery is provided. This machinery is located on the top floor of the building, and consists of pickers, cards, drawing, speeder, spinning, spooling and twisting frames, also a complete equipment of combing machinery for the production of fine yarns.

Knitting. This department is equipped with a variety of circular knitting machines for making ladies' hose and men's plain and fancy half hose. It is also equipped with loopers, bottle bobbin winder, Universal winder, balances, etc.

Weaving. This room contains a larger variety of looms than can be found in any mill. These have been carefully selected so that the students may obtain a knowledge of the different cotton, rayon, and silk looms made in the United States. The equipment contains looms to produce such fabrics as prints, sheeting, denims and twill fabrics, ginghams, fancy shirtings, plush and dress goods, as well as leno and jacquard fabrics.

On this floor, also, is located the jacquard card-cutting and lacing equipment, and in a separate room silk throwing equipment, consisting of silk and rayon winder, 5.B. spinner, warping and beaming machine.

The development of the weaving industry in North Carolina for the past few years has been along diversified lines, and many fancy cotton, rayon, and silk fabrics are now manufactured in this State. The weaving equipment in the school has been especially selected so that textile students may be trained in the technique of manufacturing high-grade fabrics.

Designing and Fabric Analysis. A full equipment of design boards for single and double cloths are provided in the classrooms. Dies for cutting samples and different makes of balances are provided for the analysis of fabrics.

Dyeing. The Dye Laboratory is provided with a full equipment of analytical balances and other apparatus necessary for experimental work. It is also well fitted up with appropriate work tables and apparatus for experimental dyeing, dye-testing, color-matching, and the testing of dyed samples by light, acids, and alkalis.

The Dye House is equipped with the proper dyeing machinery needed in the dyeing of larger quantities of material and the giving of instruction in boiling out, bleaching, and dyeing of raw stock, skeins, warps, and piece goods.

Research Laboratories. Two laboratories are provided with the necessary apparatus to test cotton and rayon yarns and fabrics for moisture content and tensile strength, and for the analysis of starches and oils, photomicrography and other research.

Zoology

The space devoted to Zoology is equipped to present the various subjects and to carry on research in its own and related fields. The Entomology laboratory has a large insectary with necessary equipment. The Genetics Laboratory is provided with the usual equipment, and has an especially large collection of breeding animals for research and instruction in this field. The beekeeping laboratory is well provided with appa-

ratus to illustrate all phases of beekeeping. A small apiary is maintained on the College grounds. The technique and graduate laboratories are especially well equipped for the teaching of graduate work. The museum contains a synoptic collection illustrating most groups of animals.

COLLEGE PUBLICATIONS

State College Record, issued monthly, contains announcements of official activities of the College. One issue constitutes the institution's catalog which sums up the work for the current session and outlines that for the following college session.

The Extension Farm News, with a circulation of 3,500 among farmers, club members and agricultural experts, is issued monthly, and is the official organ of the School of Agriculture.

Bulletins of the Experiment Stations in Agriculture and Engineering and of other departments are issued from time to time, as projects are completed.

The North Carolina State Alumni News is the official organ of the General Alumni Association.

STUDENT ACTIVITIES

Students attend college to fit themselves for a technical business life. While here they are therefore expected to be businesslike in their habits, to be prompt in their attendance, and regular at classes, shops, drills, and all other duties. To prepare themselves for their daily work, students are expected to observe in their own rooms the regular morning and evening hours of study, and to be absent from the College only at the regular specified periods.

Students are expected to keep their rooms neat and sanitary; to refrain from disturbing one another by noise in the buildings or on the grounds—in short, to conduct themselves in their college home with the same courtesy, self-respect, and propriety as in their own homes.

Student Government

The first Constitution of Student Government was granted by the Board of Trustees in 1921. Student Government in State College, therefore, has already passed the experimental stage. Its service to the administration of the College, its effect on the student body, and its introduction of students to the great problem of government have made it an important factor in the life of the College.

The governing body is entirely under the jurisdiction of the Student Council. There are fourteen members on the Council and they are elected as follows: Three members elected from each of the four schools, and one member elected from the freshman class at large at the beginning of the second term.

The Student Council has complete control of the legislative, judicial, and executive functions of the government it represents. It is the purpose of Student Government to handle all matters of student conduct, honor, and general student interest; and to promote, in campus life, self-control, personal responsibility, and loyalty to the College and student body.

Young Men's Christian Association

The Young Men's Christian Association is a fellowship whose primary purpose is to win boys and men to Jesus Christ, to associate them in Christian living, and to help them to discover and to accept the full meaning of Christian discipleship for their own lives and for society.

The program work of the Association is carried on by a junior-senior cabinet, a sophomore council and a freshman council. The governing board is composed of eleven directors, and there is an employed staff of three. Since 1913 the Association has had a building on the campus, made possible by a large gift from Mr. John D. Rockefeller and smaller gifts from many other friends. This building is the religious and social center of the campus and, in addition, has recreational features.

Societies, Clubs, and Fraternities

The International Relations Club was organized to create and further interest in domestic and foreign affairs and is open to members of the faculty and students who are in sympathy with its aims.

The Monogram Club of North Carolina State College was reorganized in April, 1930. The purpose of the club is to develop true sportsmanship in all athletics; to create a spirit of coöperation among athletes, students, coaches, faculty members and alumni; to create and maintain respect and pride for the Monogram, and to regulate the wearing of athletic Monograms and Numerals.

The Red Masquers is an organization for the purpose of play production on the campus. It is entirely a student-body effort toward dramatic work and has progressed to the production of three-act plays.

The Agricultural Club, composed of students in Agricultural Education and Forestry, meets regularly and sponsors the Agricultural Students' Fair and the Annual Barn Warming.

The Forestry Club consists of students in Forestry, and meets regularly for the discussion of topics in this field. The club takes part in intramural sports and general college activities.

The State College Grange is a student branch of the National Grange. Its chief purpose is to train Grange leaders. Students in Agriculture and Education, and also adults eligible to membership in regular Granges, are eligible to membership.

The Horticultural Society was organized by the students to stimulate greater interest in and to foster a better understanding of the educational value, research, professional possibilities, and ideals of horticulture.

The Aeronautic Society has as its purpose the promotion of the technical phases of aeronautics. The society admits to membership students enrolled in any department of engineering who are interested in aeronautics.

The Beaux-Arts is composed of students in Architectural Engineering and Landscape Architecture. Its purpose is the discussion of problems met in the practice of the profession.

The American Ceramic Society has established a student branch in order to promote interest in Ceramic Engineering and to prepare students for membership in the parent society.

The Chemical Engineering Society is a student chapter of the American Institute of Chemical Engineers. Seniors, juniors, and sophomores in Chemical Engineering are active members, and freshmen are associate members. Chemical Engineering subjects and problems are discussed. Members on graduation are eligible for junior membership in the A. I. Ch. E.

The Civil Engineering Society is the student chapter of the American Society of Civil Engineers. The students eligible to membership are seniors, juniors, and sophomores in Civil Engineering. Freshmen are eligible as associate members. After graduation members are eligible for junior membership in the national A. S. C. E. Bi-monthly meetings are held for discussions of Civil Engineering subjects.

The Construction Engineering Society is a student chapter of the Associated General Contractors of America. This chapter has the distinction of being the first one organized in this country, and it contributes materially to the professional advancement of the sophomores, juniors, and seniors eligible for membership.

The Electrical Engineering Society is a student branch of the American Institute of Electrical Engineers. There is great interest in the discussion of papers, inspection trips, and addresses by visiting engineers.

The Industrial Engineering Society is a student branch of the National Society for the Advancement of Management into which the former National Society of Industrial Engineers has been merged with the Taylor Society. It meets twice a month for discussion of industrial engineering topics.

Keramos, the national professional Ceramic Engineering fraternity, has established a chapter, to which juniors and seniors of good character and high scholarship are eligible. Membership is a mark of distinction in Ceramic Engineering.

The Mechanical Engineering Society is a student branch of the American Society of Mechanical Engineers. The society is composed of seniors and juniors in Mechanical Engineering. It meets twice a month for the discussion of engineering subjects.

The Engineers' Council is the student organization representing the entire Engineering School. The membership is composed of two seniors, a junior and one professor from each of the engineering departments. The organization publishes quarterly a student technical magazine, and during the spring term provides for the Engineers' Fair and Exposition.

Theta Tau, a national professional engineering fraternity, installed Rho Chapter at State College in 1924. The total membership in the chapter now exceeds two hundred. The purpose of the fraternity is to develop and maintain a high standard of professional interest and to unite the members in a strong bond of fraternal fellowship.

Delta Sigma Pi is a professional business fraternity. Beta-Delta Chapter was established at State College in 1929. Its principal objects are to foster the study of business, to encourage scholarship and the association of students for their mutual advancement by research and practice, to promote a closer affiliation with the commercial world and to further a higher standard of commercial ethics and culture.

The Tompkins Textile Society meets twice a month to hear addresses from leaders in the textile industry, discuss textile topics, or hear reports upon articles in textile journals.

Social Fraternities. Fourteen national Greek-letter fraternities and one local Greek-letter fraternity have chapters at State College. The majority of these fraternities occupy chapter houses near the College campus. The work of the fraternities is coördinated through a local Interfraternity Council.

Honor Societies

Alpha Zeta, National Honorary Agricultural Fraternity, established the North Carolina chapter at State College in 1904. It strives to encourage scholarship and develop leadership, personality, and character in agricultural students. Membership is limited to students having high scholastic standing and who have given promise of developing into leaders in the field of agriculture.

Blue Key, National Honorary Leadership Fraternity, is a working organization of members of the junior and senior classes. It strives to promote a spirit of fraternalism among the students through studying, discussing, and furthering the best interests of State College.

Gamma Sigma Epsilon is an honorary chemical fraternity. Alpha Beta Chapter of North Carolina was established at State College in 1921. Its purpose is to promote scholarship and develop leadership in the field of chemistry. At the bi-weekly meetings the members discuss chemical topics of importance.

The Golden Chain, Senior Honor Society, was organized at State College in 1926. The purpose is to foster prevailing traditions and to promote new traditions. Citizenship is the determining factor. Such qualities of citizenship as better athletics, highest standards of scholarship and government, clever expression, and fidelity to duty are prerequisites to membership in this society.

Kappa Phi Kappa, a professional education fraternity, established the North Carolina Alpha-Sigma Chapter in 1931. The purpose is to promote the cause of education by enlisting men of recognized character and ability to study and practice its principles.

Lambda Gamma Delta is the honorary agricultural judging fraternity. Its aims are to promote and stimulate interest in agricultural endeavor. Students making any one of the national intercollegiate judging teams—Livestock, Horticulture, Poultry, or Farm Crops—are eligible to membership.

The Order of 30 and 3 is an honorary organization founded at North Carolina State College in 1931, recognizing leadership ability, scholarship, interest in college welfare, and good character. Eleven of the outstanding sophomores are elected during the winter term of each year. The club fosters high ideals, better school spirit, and support of all activities for the promotion of the best in student life.

Phi Eta Sigma Fraternity, Freshman Honor Society, was installed at North Carolina State College in 1930. Members are chosen from the freshman class following their first term in college. The purpose of the society is to recognize and encourage high standards of scholarship at the beginning of students' college careers.

Phi Kappa Phi, a national honor society with forty-five chapters, has as its primary purpose the promotion of scholarship in all branches of learning. Having both faculty and student members, the society seeks also to cultivate high ideals and cordial relations within its membership.

Phi Psi is a National Professional Textile Fraternity. Its objects are to promote good fellowship among men of the Textile Schools, to encourage a high standard in textile work, and to assist, by all honorable means, the advancement of its members.

Pi Kappa Delta, National Honorary Public-speaking Society, established the North Carolina Alpha Chapter at State College in 1925. Its purpose is to promote intercollegiate contests in debate and oratory, and to provide suitable recognition for students who represent the College in these activities.

The Pine Burr Society was founded at State College in 1922. Its purposes are to encourage high standards of scholarship, to develop leadership in all worth-while organizations on the campus, and to preserve the history of the College.

Scabbard and Blade, National Honorary Military Society, founded in 1905, has at present local units in 82 colleges and universities. Its purpose is to raise the standard of military training in the R. O. T. C. and promote good fellowship among cadet officers.

Sigma Pi Alpha, National Honorary Language Fraternity. Alpha Chapter was founded at State College in 1927. The object of this fraternity is to stimulate an interest in and to acquire a more intimate knowledge of the language, life, customs, and culture of Spanish-speaking and other countries of the world, and to bring about a better understanding of them. Student membership is limited to those who have an unusual interest in languages and who have a high scholastic average.

Sigma Tau Sigma promotes scholarship among students in the Textile School. Members are elected on the basis of their standing in scholarship.

Tau Beta Pi, the National Honorary Engineering Society, established the North Carolina Alpha Chapter at State College in 1925. The purpose is to promote scholarship among engineering students. The requirements for admission are high, and election to Tau Beta Pi is considered a signal honor.

EVENTS

The **Students' Agricultural Fair** is an annual occasion when the students in Agriculture have the opportunity to display the work of the various departments in which they are interested. It is held in connection with the North Carolina State Fair.

The **Engineers' Celebration**, in the Spring Term, presents a comprehensive exposition of the activities, interests, and equipment of the departments of the School of Engineering, the Engineers' Parade with representative and original floats, and the Grand Brawl, with its impressive induction of qualified seniors into the Order of the Knights of St. Patrick.

The **Textile Institute and Style Show** is an annual event which affords Textile students an opportunity to display the products of their school. The home economics departments of North Carolina colleges for women cooperate with the Textile School in staging the Style Show, which is usually held about the middle of April.

FORENSICS

State College's record in intercollegiate forensics places it among the two or three leading schools in the United States. During the past five years State College speakers have won over forty major National, Southern, South Atlantic, N.C.I.F.A., and state championships in debating, oratory, extemporaneous speaking, after-dinner speaking, and impromptu speaking. The Direct Clash debate plan was originated at State College four years ago, and since that time our debate teams have traveled over 19,000 miles by special invitation to demonstrate this new and difficult form before conventions and audiences in all parts of the country. They have twice appeared on the program of the National Association of Teachers of Speech, once in Los Angeles and once in New York City.

But despite the school's brilliant record in intercollegiate competition, emphasis has been put on providing training for every student interested in public speaking. An average of thirty students each year take part in the various school and inter-school contests. Any student of reasonable intelligence and industry is assured of at least three intercollegiate debates each year and the chance to take part in as many more as his ability and rate of improvement will justify. In addition, some eighteen semester hours of classroom instruction in public speaking are offered in the curriculum.

MUSIC

The Band has gradually grown in size and quality until now it has become a first-class, well-balanced symphonic band of 70 pieces, with a comprehensive music library and a splendid equipment of instruments, to which additions are made from time to time.

The Concert Orchestra and the Glee Club are being developed according to the same high standards. Vocal Quartet and Chamber Music Ensemble work are also encouraged.

There is a demand for all the musical organizations of State College in other towns as well as for local civic affairs and on the campus.

Mu Beta Psi (National Musical Fraternity). The purpose of this fraternity is to promote a better fellowship among the musicians of the various musical organizations of a college and among the musicians of the various musical organizations of the different colleges; also to advance music to its proper place as an educational subject. Juniors having served two years in some musical unit are eligible to membership.

STUDENT PUBLICATIONS

The **Student Publications Association**, composed of eighteen members, supervises publications for students of the College. Each publication, the student body and faculty are represented. The publications offer a good medium for practice in journalism, in addition to serving the College community.

The **Technician** is published weekly throughout the college year by a staff of students elected by the student body.

The **Agromeck** is the College annual, published by a staff composed of seniors.

The **Wataugan**, literary-humorous organ of the student body, is issued six times each college year and contains contributions by student-body members.

The **N. C. State Agriculturist** is published monthly during the college year as an agricultural magazine by students in the School of Agriculture.

The *Southern Engineer* is a quarterly publication established in 1933 by students in the Engineering School. The magazine furnishes an outlet for articles on engineering subjects prepared by advanced students in the Engineering School.

The *Pi-ne-tum* is an annual publication by forestry students in the School of Agriculture and Forestry. The publication contains summary articles on forestry activities in North Carolina and brief personal items relating to seniors in the forestry courses.

PHYSICAL EDUCATION AND ATHLETICS

A nation-wide movement for the promotion of health and recreation has developed remarkably since the World War. The growing interest in physical education has found expression in many significant accomplishments. A majority of the states have passed laws requiring physical training in the public schools. Playgrounds and recreation centers are being established in progressive towns and cities. Employers are providing opportunities for recreation and are taking steps to promote the health of their employees. Colleges and universities provide required and elective programs in physical training, health programs, intramural athletic programs for student bodies in addition to intercollegiate athletic programs. Many colleges also provide curricula to train specialized teachers and coaches.

North Carolina State College recognizes the lessons of the late war as to health, physical efficiency, and morale of the student body. Therefore this department is established on a competent and expert basis, with sufficient trained staff to meet the needs. The aims of the department are: to promote a higher standard of physical fitness through "big-muscle" activities; to develop habits, knowledge, appreciation, and skills in desirable sports, athletics and gymnastic procedures; to develop the habit of safe recreative activities to be indulged in after graduation.

Physical Plant

The Department of Physical Education and Athletics is quartered in the Frank Thompson Gymnasium. It is among the largest and best equipped gymnasiums in the South. An outstanding feature is its tiled swimming pool and natatorium with modern filter and chlorinating system. Riddick Stadium, with the new concrete bleachers, seats 15,000 spectators. The new Field House, located at the south end of the stadium, is the headquarters of the football squad; Freshman Field, adjacent to the gymnasium, is used by the varsity baseball squad. Other uses made of this field are: freshman football practice, intramural contests and physical training class work. The new quarter-mile track, with its 220-yard straight-away, encloses the varsity football practice field. "Red Diamond" and "1911 Parade Field" are available for intramural contests. The College has ten excellent clay tennis courts, with others under construction.

Organization and Administration

The Department of Physical Education and Athletics is in the Basic Division of the College. The program of physical welfare for the College consists of three divisions: Physical Education courses offered in various curricula for which college credit is given; Intramural athletic activities; Intercollegiate athletic activities.

All activities of the department are controlled by the College. The Head of the Department seeks balance and coördination in the work of the three divisions and sees that policies are carried out by the staff. He is responsible to the Dean of Administration and finally to the President and Trustees. All phases of physical education and intramural activities are under the supervision of the Dean of the Basic Division of the College. As Professor of Physical Education, he has the responsibility for the direct supervision, and attends to all details connected with these two phases of work. All phases of intercollegiate athletics are under the supervision of the Athletic Council of the College. The Business Manager of Athletics has the responsibility for all business, financial and details connected with intercollegiate games. The members of the staff are expected to give reasonable and capable assistance in any division of the department, in so far as it does not interfere with their main specialization. They are responsible to the head of the department for carrying out their duties.

Physical Training Courses

The College requires all students to enroll in some type of physical activity for two years or six full terms. These courses meet twice a week, and one hour's credit is given for each term's work. All students are required to take a physical and medical examination at the time of registering in College. Those who have sub-normal conditions of any sort are placed on a recall list. Students may receive free medical advice at any time. All freshmen are required to take a course in Health Education which meets once a week for one term. This course consists of instruction in personal hygiene by members of the Physical Education staff. A swimming requirement is made of all freshmen which must be met before graduation. The physical training courses are so standardized that they are presented, instruction given, and examination required of each individual student on the same basis as all other college courses. Students having physical defects which would interfere with their meeting the regular class requirements are placed in a restricted activity group.

In general, physical training activities fall in one of three groups: (a) those developing individual physical efficiency; (b) those affording combative contests; (c) those occupying recreative or leisure time. Work is prescribed for freshmen, while election of different activities is permitted sophomores.

Intramural Athletic Activities

Activities are fostered and promoted in many lines of athletics for the student body. Meets, tournaments, and leagues are seasonally organized in twelve separate activities. Participation in these activities is purely voluntary and does not receive college credit. Sports used in this program are correlated with those used in the required courses in physical training. Instruction in playing is given in class work and opportunity for competition is provided by the intramural program. Cups, shields, and trophies are awarded winners in these competitions.

Intercollegiate Athletic Activities

North Carolina State College is a member of the Southern Conference and subscribes to its rules of eligibility for all intercollegiate athletic contests. This program consists of the organization and training of representative teams in the following sports: football, basketball, baseball, track, cross-country, wrestling, boxing, swimming, tennis, golf, and rifle competition.

MILITARY TRAINING

Military Training at the North Carolina State College of Agriculture and Engineering is organized in a department called the Reserve Officers' Training Corps (R. O. T. C.). This department is one of the major divisions of the College. Instruction in Military Science and Tactics is divided into two periods of two years each. The first two years for freshmen and sophomores embrace the basic courses, and the last two years for juniors and seniors, the advanced courses.

All freshmen who register for enrollment are given a thorough physical examination. Physically acceptable freshmen and sophomores are required to take the basic courses in Military Science and Tactics. Those under-classmen who for cogent reasons desire exemption from these required courses must submit formal application in writing to the Dean of Administration through the Professor of Military Science and Tactics. Students excused from taking the basic military courses are required to take alternative courses in the Humanities or Social Sciences.

Credit is given by the Military Department to all students who have satisfactorily completed all or part of the basic military courses prior to enrollment in this College.

The advanced courses for juniors and seniors are elective. A student, upon successful completion of the advanced courses in Military Training, may, if he so elects, receive a reserve commission and be assigned to a reserve unit, normally in his own locality.

While the R. O. T. C. is designed under the National Defense Act of Congress to qualify students for positions of leadership in time of national emergency, it also affords to the College a means for practical training

in organization, leadership, and discipline which will be of value to its graduated students in an industrial or professional career. The theoretical courses have an element of general educational value.

The Federal government not only furnishes officers of the regular army as instructors, but it also assists very materially by supplying, without cost, equipment and uniforms to all R. O. T. C. students, and by providing pay for those who volunteer to take the advanced courses for juniors and seniors. The amount paid by the Federal government to each R. O. T. C. student during the junior and senior years is approximately \$200.00.

Although the government furnishes necessary military uniforms and equipment, the College finds it desirable to require each student to make a small deposit as a guarantee against the return of such government clothing and equipment as is issued him. The student must also provide himself with a pair of low tan shoes. For the sake of uniformity, these must be purchased at the College. Other incidental expenses cost each freshman about \$1.25 annually.

North Carolina State College not only has one of the largest Reserve Officers' Training Corps units in the Fourth Corps Area, comprising the eight states of North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi and Louisiana, but also has one of the best R. O. T. C. units in the South. It is organized as an infantry regiment of three battalions, with an excellent regimental band of sixty student members.

The training is conducted so as to emphasize the fundamental importance of good character and to develop the elements of leadership. It seeks to improve the student's general health and appearance. Neatness of clothing is required and the value of correct posture is stressed. Students must be punctual and regular in attendance in classes, drills, and other military duties.

INFORMATION FOR APPLICANTS

Classification of Undergraduate Students

A *regular student* is one who desires to pursue one of the standard curricula offered by the institution.

A *special student* is one who is admitted to take certain subjects. An individual of mature age, already engaged in a trade, occupation, or profession, may, upon the recommendation of the Dean of the School in which he desires to register, be admitted as a special student without fully meeting the entrance requirements in order to further improve himself in his vocation. Special students are required to present a record of their previous education when applying for admission. Special students are not eligible for a degree, cannot represent the institution in intercollegiate contests, and cannot become members of fraternities. Work completed by special students does not give college credit and cannot be used toward a degree.

Requirements for Admission to Undergraduate Schools

(See Graduate School for Graduate Admission)

There are two bases for the admission of regular students:

1. Graduates from a standard high school (a high school which is accredited by the State Department of Public Instruction) are eligible for admission without an examination.

2. (a) Graduates of four-year non-standard high schools may be admitted by passing successfully the College entrance examination prepared by the Examination Committee of the North Carolina College Conference, or such other tests as the College desires to use.

(b) In exceptional instances a person of mature age may be admitted by the Dean of the School on the basis of his ability to carry the regular work of a curriculum in that school. This ability shall be determined by examinations, which shall include a psychological test.

Each applicant for admission must be at least sixteen years of age, and must have a certificate of good moral character from the school last attended. A regular student, although admitted to college, must meet the specific requirements of the school selected.

Any student deficient in specified units may, upon the recommendation of the Dean of the School he desires to enter, be admitted, but must make up his deficiencies before the beginning of his sophomore year.

Fifteen units of credit are required for admission to the four-year curricula. A unit is defined as a subject pursued in an accredited high school for five periods a week throughout the year, each period being at least forty minutes.

The specified subjects are as follows:

	Units of Credit
English:	
Grammar, Composition, and Literature.....	3
History:	
*American or equivalent.....	1
Mathematics:	
Algebra to Quadratics.....	1
Algebra, Quadratics through Progressions.....	.5
Plane Geometry	1
**Solid Geometry5
Science:	
Any one listed below.....	1

Besides these required subjects, an applicant must present from the specified subjects or the following elective list enough credits to total fifteen units.

* A student lacking American History will be admitted without condition but must elect nine hours in American History or Government as part of his credits toward graduation.

** Required in the School of Engineering only. Students having entrance condition in Solid Geometry will be required to take a special course to remove it.

Elective Subjects

(The figure in each subject represents the maximum number of credits which will be acceptable. Less than that number may be offered. The total acceptable units in each group include those offered in the specified subjects.)

Science Group:

Biology	1
Botany	1
Chemistry	1
Commercial Geography5
General Science	1
Physics	1
Physiology and Hygiene.....	1
Physical Geography	1
Zoology	1

Language:

English	4
French	2
German	2
Latin	4
Spanish	2

History and Social Science:

American or equivalent.....	1
English	1
General	1
Medieval and Modern.....	1
Ancient	1
North Carolina5
Civics	1
Sociology	1
Economics	1

Mathematics:

Algebra	2.5
Business Arithmetic	1
Plane Geometry	1
Solid Geometry5
Trigonometry5

Miscellaneous (Not over 4 credits):

Agriculture	4
Bookkeeping	1
Stenography and Typewriting.....	1
Drawing	1
Mechanic Arts	2
Mill Practice	1
Any other High School subject.....	1

Explanation

1. In Science a unit of credit is allowed only when the course includes laboratory. A record of the laboratory work in Science **should be kept** in a suitable note-book, and certified by the teacher of the subject or the principal or superintendent of the school.

2. In Foreign Modern Languages one unit of credit is allowed for each year's work. The first year's work should cover the grammar and about 200 pages of translation.

3. In Latin one unit each is allowed for grammar and composition, Cæsar (Books I-IV), Virgil (Books I-IV of the *Æneid*), and Cicero (six orations).

4. Standard high school textbooks are recommended for all subjects.

Certificates

Certificates must be presented on official College Admission blanks furnished by the College Registrar. These must be signed by the proper officials of accredited high schools or other preparatory schools of approved standing. These certificates must be submitted to the Registrar for approval. It is of distinct advantage to the applicant to send in his certificate as early as possible after the work is completed, but no certificate should be submitted until all work done for college entrance is entered on the certificate blank.

Certificates mailed to the College should be directed to the Registrar's office.

Advanced Standing

Students who have attended colleges of approved standing will be allowed credit for work done upon the presentation of proper certificates to the dean of the school in which they expect to register. At least one year's work in residence is required for an undergraduate degree.

Vaccination

Each applicant for admission is required to be vaccinated against smallpox before he can be admitted unless he has been successfully vaccinated within two years preceding his registration. Since inoculation against typhoid fever has become a standard preventive measure, parents are requested to have their sons inoculated before coming to College. However, this is not compulsory. The College offers a treatment free to all students. Therefore there is no valid reason why any student should contract this disease if he will avail himself of this preventive of a disease to which young men are sometimes peculiarly susceptible.

Health of Students

We strive to protect the health of our students in every possible way. Each student is given a thorough physical examination when he enters College. If defects are discovered which can be corrected by special exercise the student is placed in a "corrective Class" under supervision of a special instructor in our Department of Physical Education.

In case of illness, the student is sent to our College Infirmary where a resident nurse is on duty at all times. Our College Physician visits the Infirmary regularly once each day, and more often when necessary. Your attention is called to the following regulations governing care of the sick:

"The hospital and medical fee provides hospital service, general medical treatment, and the services of a hospital nurse for students of the College who pay this fee.

"It does not provide for surgical operations nor private nursing. Neither does it include the services of dentists and eye, ear, nose, and throat specialists, except as they are called in for consultation by the College Physician."

Parents will be notified immediately in case of accident or serious illness of their sons, and no surgical operations will be performed, except in cases of extreme emergency, without full consent of parents.

Student Assemblies

The College Auditorium is not large enough to accommodate a joint assembly of all classes. The freshman class will meet twice each week. Thursday at twelve o'clock the entire freshman class will meet in an Assembly in Pullen Hall. Tuesday the freshmen meet by schools with the dean or chairman of a department or an adviser appointed by the dean of the school. Sophomores will meet in an Assembly in Pullen Hall once each month. Juniors and seniors will meet in an Assembly once each month. Attendance on these assemblies is required.

Grades and Credits

The minimum passing grade in any course is 60 per cent. The following system is used in reporting the grades of students: A, 90 to 100 per cent, inclusive; B, 80 to 89 per cent, inclusive; C, 70 to 79 per cent, inclusive; D, 60 to 69 per cent, inclusive; F, for all grades below 60 per cent. Where the grade F is reported to the Registrar the student must repeat the course in class before he shall receive credit for the course. A student may be given an incomplete grade (I) if some specific portion of his work remains unfinished at the end of the term, provided his standing in the course has been of grade C or higher.

An incomplete grade, which is not removed by the end of the first term in which the student is in residence after receiving it, automatically becomes a failure.

The following system will be used in assigning "quality points" for the graduation requirements: A, 3 points per term credit; B, 2 points per term credit; C, 1 point per term credit, and D, 0 point per term credit. Students who enter with advanced standing are allowed one point for each term credit accepted on transfer.

In order that a student may reënter for any term he must have passed the following percentage of his term credits during the preceding term: Freshman, 50 per cent; sophomore, 60 per cent; junior, 60 per cent, and senior, 60 per cent.

A student who is not eligible to reënter regularly in any term under the foregoing scholarship rule may be permitted to proceed on probation in the succeeding term upon due consideration by the Scholarship Committee and vote of the Faculty Council.

Every student who fails more than three credit hours shall be required to drop one-half the number of hours he fails, or as near that number of hours as may be mathematically possible. The reëntance of a student after the lapse of a term following that in which his eligibility was forfeited shall be decided by the Director of Instruction of his school upon the basis of maximum scholastic advantage to the student. This rule also applies to students applying from other institutions.

Credit is allowed upon a course only when the course is entered on the student's roster filed with the Registrar and Director of Instruction of his school.

Before allowing students to enter the third or fourth year they shall have net credit points equal to or greater than the term credits carried. (In case of repeated courses, the repeated grade only shall be considered.)

This means that, before advancing to the third or fourth year, students must have made an average of at least a "C" grade.

The minimum number of hours required for graduation in each school will be found in the description of courses, and so forth, under each school.

Right to Withhold Diploma

When the College grants a degree it places its stamp of approval upon a student, both as to his scholastic achievement and as to his character. The College therefore reserves the right to withhold a diploma for other reasons than poor scholarship.

Absence From Class or Examination

When a student is accepted for admission to State College, it is understood that he comes here with the desire and expectation of attending all his College duties as they are assigned to him.

The College faculty expects a student to attend every class, and no "class cuts" are allowed.

For class absences a student will lose one credit point for each three absences, except when the student is absent while engaged in activities authorized by the College, or except upon the presentation of a doctor's certificate showing that he was not well enough to attend class.

When a student has been absent from class he must give his reason to the Dean of Students within one week from the date of the absence; otherwise the reason for the absence will not be accepted.

If a student is absent from class ten times during a term, twenty times during a year, or sixty times during four years, he is automatically placed on probation and his parents and instructors are notified.

Students absent from class without a satisfactory reason while "On Probation" are subject to suspension or dismissal upon recommendation of the Committee on Discipline and approval of the Faculty Council.

There shall be a double loss of points for all College work missed on the two days preceding and on the two days following the authorized College holidays.

If a student is absent from any final examination without an official excuse his grade will be reported as "failure."

EXPENSES

The total college expense of a student will vary according to the taste and requirements of the individual, but need not exceed \$450.00 for students from within the State or \$550.00 for those from outside the State. This amount includes the cost of board, tuition, lodging, heat and lights, fees and deposits, books, drawing instruments, laundry, and certain necessary incidentals. It does not include an allowance for clothing, pocket money, and contingencies.

Freshmen in Engineering, Forestry, Landscape Architecture, Industrial Management, Textile, and Teachers of Industrial Arts will be required to purchase drawing equipment which will cost from \$15.00 to \$25.00, depending upon the completeness of the set and the quality of the material.

Tuition and Fees

The College is organized and operated on the basis of a full scholastic year as a unit. All tuition charges and fees, therefore, are due and payable in advance, but for the convenience of the student, and at his option, these may be paid in two installments, in September and January.

When neither the student nor his people can pay the full amount required at registration, it may be arranged to pay part at the time of registration and the remainder at stated intervals. The time and the amount of such payments must come within the terms of the State law, which requires prepayment of accounts. Six per cent is charged on all deferred payments, or a minimum charge of \$1.00 per term.

When a schedule of payments has been agreed upon by the College and the student, there will be an extra charge of \$5.00 for each failure to make payments as scheduled. Those persons desiring extensions of credit should make application to Mr. A. F. Bowen, College, Treasurer, *in advance of registration day.*

Students failing to make arrangements in advance will be required to pay an additional \$5.00 fee or delay their registration and be subject to the late registration fee.

Undergraduate Tuition and Fees

Tuition and regular fees for students residing in North Carolina amount to \$177.00 for the year; for other students, \$277.00. If the student elects to pay one-half in January, the amounts are as follows:

FOR SEPTEMBER REGISTRATION

	Students Residing in North Carolina	Other Students
Tuition	\$ 40.00	\$ 90.00
*College fees	37.00	37.00
**Student Activity fees.....	4.00	4.00
Athletic fee	8.00	8.00
		<hr/>
Total September to January.....	\$ 89.00	\$ 139.00

FOR JANUARY REGISTRATION

Tuition	\$ 40.00	\$ 90.00
College fees	37.00	37.00
Student Activity fees.....	4.00	4.00
Athletic fee	7.00	7.00
		<hr/>
Total	\$ 88.00	\$ 138.00

The above fees are for all regular undergraduate students, and for special students carrying twelve or more credit hours per term. Special students carrying less than twelve hours per term pay the same fees as graduate students.

Students entering after the date of registration will be required to pay an extra fee of \$2.00 for the first day and \$1.00 for each additional day late until a maximum of \$10.00 is reached. This late fee does not apply the first time a student matriculates at this institution.

* These fees include Registration, Hospital and Medical, Library and Lecture, Laboratory and Classroom and Physical Education. Women students do not pay the \$6.00 Physical Education fee.

** These fees include student government, student publications and general student activities. Students in Agriculture and Agricultural Education pay \$4.00 additional, Students in Engineering and Textiles pay \$1.00 additional.

A deposit of \$10.00 is required of each student in the Reserve Officers Training Corps to indemnify the College against the loss of military equipment. All unused portion of this amount is returned to the student at the end of the year. Students in the Reserve Officers Training Corps will require approximately \$6.00 for shoes and other supplies.

Graduate Tuition and Fees

Graduate students, and special students carrying less than twelve credit hours per term, will pay a matriculation fee of \$5.00 (payable only once) and \$3.00 per term per credit hour. This payment includes tuition and College fees, but does not include student activity and athletic fees which are optional with graduate and special students.

Room Rents

Reservation of rooms in the College dormitories should be made in advance. Assignment of rooms will be made on receipt of the first payment, provided such payment is made on or before August 15. Reservations will be held until then, after which time rooms for which no payments have been received will be assigned to others. For detailed information regarding rentals and dormitory floor plans, see back of this catalog.

Refunds

A student withdrawing from College within ten days from the date of entrance shall be refunded the amount paid, less the registration fee and a reasonable charge for board, lodging, and services while in College.

A student withdrawing from College later than ten days from the date of entrance shall receive no refund except military deposit.

A room reservation may be canceled at any time before September 1, and in case formal notice is given the Superintendent of Buildings in writing before that date the full amount paid will be refunded.

A student withdrawing from a dormitory room regularly assigned and occupied for a period of ten days shall be entitled to no refund.

What a Student Needs for His Room

The College rooms are supplied with necessary furniture. Each student, however, should bring with him his own blankets, bed linen, and towels.

Board

Board at the College is on a cafeteria basis. Students may pay cash for each meal or purchase a book of tickets at a ten per cent discount from the cash price.

The dining halls are modernly equipped and thoroughly sanitary. They are operated as a non-profit service agency, and all food served is of the very best and is purchased at the lowest possible cost.

The price of board will naturally vary with the trend of commodity prices and the individual desires of the student. Board for the average student will probably range from eighteen to twenty-two dollars per month.

Self-Help

An employment bureau for students is maintained in the Y. M. C. A., and, while the College does not guarantee to furnish work, many are assisted in finding positions where they can earn enough to help them pay at least a part of their college expenses. The work supplied is of various kinds, the most common being manual labor of one sort or another, although there are at times requests for stenographic, clerical, and other skilled help. A large number of students earn their board, or room, or both, by working in boarding houses, the college boarding department, or private homes. In general, a student is expected to work three hours a day for his board, and five to ten hours a week for his room, the amount of time in the latter case being determined by the character and location of the room.

Students desiring employment while in College may secure full information by writing to the Self-Help Secretary.

Student Loan Fund

The Alumni Association established in the year 1900 a small loan fund to be loaned to needy students of talent and character. This has been augmented from various sources and now amounts to \$34,000.00. This amount includes the Finley Loan Fund, mentioned below, of \$1,000.00, the Masonic Loan Fund of \$4,500.00, the Frank M. Harper Loan Fund of \$200.00, and the Escheats Loan Fund of \$15,000.00. Contributions have been received also from C. C. Chamberlain, Chairman, Committee Sixth Masonic District Loan Fund, and from the New Bern Masonic Theatre Loan Fund. Loans are made at 6 per cent, and good security is required. As the loan fund is small and is kept loaned out, new loans can be made only as old ones are paid. The fund at present is restricted to students in the senior and junior classes.

Finley Loan Fund. As a memorial foundation to William Wilson Finley, President of the Southern Railway Company at the time of his death, that company has established a Finley Loan Fund for needy students of agriculture. The fund amounts to \$1,000.00. This is loaned to students who are making their way through College, and returned by them to the fund after they have finished College and gone to work. It is administered by the Treasurer of the College, and all beneficiaries are named by the College.

Scholarships and Fellowships

The 1933 session of the General Assembly abolished all State scholarships and other forms of free tuition. Part of the law reads as follows:

"It being the purpose of this act that all students in State institutions of higher learning shall be required to pay tuition, and that free tuition be and the same is hereby abolished, except such students as are physically disabled, and are so certified to be by the Vocational Rehabilitation Division of the State Board for Vocational Education, who shall be entitled to free tuition in any of the institutions named in this act."

The John Gray Blount Scholarships are endowed by Colonel W. B. Rodman, of Norfolk, Va., in memory of his great-grandfather. The maximum value of each of these two scholarships is \$200.00.

The W. O. Mitscherling Fellowship Fund. This fund is provided annually by Dr. W. O. Mitscherling, of Burlington, N. C., for the benefit of the Chemical Engineering Department, and is to be used in assisting graduate students and for the encouragement of research work.

The Champion Fibre Company Fellowship in Chemical Engineering provides a fund for use in encouraging graduate and research work in Chemical Engineering.

The Morrison Scholarship. This scholarship is given by Mrs. Cameron Morrison, of Charlotte, N. C., to the North Carolina boy or girl who excells in Jersey 4-H Calf Club work and who desires to take a four-year course in Agriculture at State College, majoring in Dairy Husbandry. This scholarship, available first in the fall of 1934, has a value of \$320.00, which will pay the tuition for four years.

The Barrett Scholarships. These scholarships are given by the Agricultural Development Bureau of the Barrett Company to the North Carolina club members who excell in 4-H Corn Club work. These scholarships became available in the fall of 1936 and consist of one four-year scholarship, valued at \$320.00, and three one-year scholarships, valued at \$80.00 each.

The Chilean Nitrate Leadership Award. In order to promote interest in a continuous program of achievements in all phases of 4-H Club work, the Chilean Nitrate Educational Bureau, Incorporated, offers a four-year scholarship in Agriculture, valued at \$320.00, to North Carolina State College to the club boy selected as the outstanding club member in the State during 1936.

One hundred scholarships to the State 4-H Summer Short Course, held at State College, are offered to the club boys selected as the most outstanding club members in the State. One scholarship will be awarded to each county in the State. These scholarships have a value of \$5.00 each.

The Holladay Scholarship. Mr. Randolph Holladay established in 1936 a four-year scholarship in honor of his father, Colonel Alexander Q.

Holladay, LL.D., first President of the North Carolina State College. This scholarship was awarded to a student in August, 1936, for a period of four years. *40 Crushes 3-1/4*

National Cottonseed Products Association Scholarship. In order to promote interest in baby beef work and to stimulate the value of feeding a balanced ration, the North Carolina Division of the National Cottonseed Products Association offers a one-year scholarship in dairying or animal husbandry at the North Carolina State College of Agriculture to the North Carolina 4-H Club member growing and exhibiting the best baby beef calf during 1936.

The Syd Alexander Scholarship. This scholarship was endowed by Mrs. Mary R. Alexander, of Charlotte, North Carolina, in memory of her husband, the late Sydenham B. Alexander, alumnus and trustee of the North Carolina State College. The principal of the endowment is five thousand dollars. The returns from this endowment are to be awarded to a student in the State College who is a native and resident of Mecklenburg County, North Carolina, and who is pursuing a course in the School of Textiles of the State College.

MEDALS AND PRIZES

The Alpha Zeta Cup is awarded annually on Scholarship Day to the sophomore in Agriculture who made the highest scholastic average during his freshman year.

Alumni Athletic Trophy. The General Alumni Association presents annually a handsome trophy to the student athlete doing the most outstanding work during the college year.

The American Institute of Chemical Engineers Award is presented annually to the Chemical Engineering sophomore who has made the highest scholastic record during his freshman year.

The Associated General Contractors Prize is awarded each year by Carolina's Branch of the Associated General Contractors of America to that member of the senior class in Construction Engineering who has the best scholarship record for the sophomore, junior, and senior years. The prize consists of a year's special training in construction in the field with pay.

Delta Sigma Pi Scholarship Key. To encourage high scholarship Delta Sigma Pi presents annually at every university and college where it has a chapter the Delta Sigma Pi Scholarship Key, which is awarded by the faculty to that senior who upon graduation ranks highest in scholarship for the entire course in Business.

The Elder P. D. Gold Citizenship Medal has been established by Mr. C. W. Gold, of Greensboro, N. C., member of the class of 1896, in memory of his father, Elder P. D. Gold, of Wilson, N. C.

This medal is awarded to that member of the senior class who has most distinguished himself in Student Citizenship during his sophomore, junior, and senior years.

The award is based on four qualities of citizenship in the College community—Scholarship, Student Leadership, Athletics, and Public Speaking. These four qualifications are certified to by the College Registrar, the Student Council, the Faculty Athletic Committee, and a committee composed of the ranking junior officer in all college societies in which public speaking is practiced.

The Moland-Drysdale Scholarship Cup is awarded to the freshman in the Department of Ceramic Engineering who has the highest scholastic average for the two terms preceding the annual Scholarship Day. In making the award, considerable weight is also given to interest shown in the activities of the department. The cup was presented to the Department of Ceramic Engineering by George N. Moland, of Hendersonville, N. C., president of the Moland-Drysdale Corporation of that city.

National Association of Cotton Manufacturers Students Medal is awarded annually to the Textile student who has the highest proficiency in his work.

Phi Kappa Phi Medals are awarded each year at the Scholarship Day exercises. A gold medal is awarded to the senior who as a junior made the highest grades. A silver medal is awarded to the junior who as a sophomore made the highest grades. A bronze medal is awarded to the sophomore who as a freshman made the highest grades.

The Sigma Tau Sigma Cup is awarded annually on Scholarship Day to the senior in Textile who has the highest scholastic average.

The J. C. Steele Scholarship Cup is awarded annually to the student of the three upper classes in the Department of Ceramic Engineering who has the highest scholastic average for the three terms preceding the annual Scholarship Day. In making the award the head of the department also takes into consideration the personality of the candidates and the interest shown in the departmental activities during the previous year.

The cup was presented to the Department of Ceramic Engineering by J. C. Steele and Sons of Statesville, to commemorate the establishment in that city of the first plant for the manufacture of ceramic machinery in the South by J. C. Steele.

The School of Science and Business Scholarship Plaque is accorded each year on Scholarship Day to that student who has made the most progress in scholarship during the previous year. The award is unique in that it is for *improvement* in scholarship, the usual method being to award for highest scholarship.

The Textile Colorist Medal is awarded annually to the senior who presents the best thesis on some phase of Textile Chemistry and Dyeing.

THE D. H. HILL LIBRARY

The College realizes that experience in the use of books and periodicals is an essential part of the training of the agriculturist, engineer, industrialist, and scientist. In various courses the student is constantly being referred to books which he is either recommended or required to read. The book collection is being chosen with special reference to the courses offered by the College and to the development of general reading along desirable channels.

The library consists of all books and periodicals belonging to the College. It contains over 43,500 bound volumes, exclusive of government documents, and much unbound material. The library is a depository for the publications of the United States Government and also receives most of the experiment station publications of the different states. In addition there is a collection of foreign agricultural documents.

Two reading rooms with a seating capacity of more than 200 are maintained in connection with the library. There is a large general reference room, one division of which contains encyclopedias, dictionaries, atlases, and general reference books. The other division contains current magazines and state and national newspapers. There is a smaller room which is used for general reading purposes. It is equipped with comfortable furniture and has in it a collection of the best fiction and readable non-fiction. As the purpose of this collection is to promote reading for pleasure, studying is not permitted in the room. The library also offers an elective course in use of the library during the winter and spring quarters. This course is open to juniors, seniors, and others by special permission.

Elementary instruction in the use of the library is given new students during the fall quarter. This includes lectures and problems in the use of the catalog, magazine indexes, and reference books.

Hours. The library is open every weekday from 8:00 a. m. to 10:00 p. m., excepting in vacation, when it opens at 9:00 a. m. and closes at 5:00 p. m. On Sundays the hours are from 2:00 p. m. to 10:00 p. m., during the academic year and summer school. The library is closed on Sundays during vacation periods, New Year's Day, Fourth of July, Labor Day, and Christmas Day.

Rules. The rules of the library are designed to facilitate study and promote the use of books. Faculty members may keep books until May 15 of each year with the following exceptions. Fiction, "Open Shelf Collection" books, and bound periodicals are issued for two weeks only unless they are needed for course work. However, faculty members are urged to return all books as soon as their need for them is filled. Books needed for reserve which are charged to faculty members will be recalled when needed. The term Faculty applies to persons of or above the rank of Instructor.

Students and other members of the College community may borrow books for a period of two weeks, with the privilege of renewal in most cases.

Books and periodicals which the library does not own can usually be obtained from other libraries through the interlibrary loan system. This service is available to graduate students and faculty members.

Books bought at the recommendation of a department do not consequently become the exclusive property of that department. They are the property of the College, acquired through the library, and are to be so placed as to insure their greatest use to the greatest number of students and faculty members.

In addition to the D. H. Hill Library, the City of Raleigh has many excellent library facilities available to State College students. The North Carolina State Library, the Supreme Court Library, the North Carolina Library Commission, and the Olivia Raney Library contain over 150,000 volumes.

THE BASIC DIVISION

BENJAMIN FRANKLIN BROWN, *Dean*

PURPOSE AND ORGANIZATION OF THE BASIC DIVISION

The School of Science and Business was discontinued on July 1, 1937. Students now registered in curricula offered in the School of Science and Business must complete the requirements for graduation by the June commencement, 1938. The Basic Division will continue the instruction offered in the curricula formerly set up in the School of Science and Business.

With the opening of the school year 1937-38, the Basic Division superseded the School of Science and Business. The Basic Division will continue to offer the courses of instruction formerly offered by the School of Science and Business, which may be required in the curricula of the several schools of the College. A further statement will be contained in the next catalog, giving more in detail the functions of the Basic Division.

This Division will ultimately be modeled along the lines of general colleges, which have been established in some of the leading universities of America.

THE SCHOOL OF AGRICULTURE AND FORESTRY

IRA OBED SCHAUB, *Dean and Director of Extension*

ZENO PAYNE METCALF, *Director of Instruction*

ORGANIZATION

North Carolina is one of the foremost states in the Union in the value of farm crops. The scientific investigations, demonstrations, and instruction of State College, in coöperation with the State Department of Agriculture, have been particularly effective in promoting better methods of farming, and in adopting scientific agriculture. The majority of the people of the State employed in gainful occupations are devoting their energies to some form of agriculture, and the greater part of our wealth and prosperity is derived from this great vocation.

The art of cultivating the soil properly and living well at home, the value of selecting that form of agriculture which is in greatest demand, and the best method of turning the surplus products into commercial channels that will be most profitable to the producer are matters of the greatest concern to the people of the State. The School of Agriculture has been reorganized for the purpose of rendering a much larger service to the State along these and other lines. The Experiment Station and the Extension Service have been more closely united with college instruction, and the courses of study have been so organized and the instruction so broadened as to offer much larger opportunities to young men entering college, and to farmers and other agricultural workers throughout the State.

Beginning a generation ago on a very small scale, the School of Agriculture and Forestry has grown until today it embraces the following important divisions: (a) Agricultural Economics, including Farm Marketing, Farm Management, and Rural Sociology; (b) Agronomy, including Field Crops, Soils, Plant Breeding, and Agricultural Engineering; (c) Animal Industry, including Animal Production, Animal Nutrition, Dairy Production, and Dairy Manufacturing; (d) Botany, including Bacteriology, Plant Physiology and Plant Diseases; (e) Chemistry; (f) Horticulture, including Pomology, Small Fruit Culture, Floriculture, Truck Farming, and Landscape Architecture; (g) Forestry; (h) Poultry Science, including Poultry Diseases, Poultry Breeding, Poultry Feeding, and Poultry Management; (i) Zoology, including Genetics, Entomology, Animal Physiology, and Wild Life Management.

THE PURPOSE OF THE SCHOOL

The purpose of the School of Agriculture and Forestry is three-fold: (1) To secure through scientific research, experimentation, and demonstration accurate and reliable information relating to soils, plants, and animals, and to secure from every available source reliable statistical, technical, and scientific data relating to every phase of agriculture that

might be of advantage to our State; (2) to provide instruction in college for young men who desire to enter the field of general agriculture, or wish to become professionals in agricultural education or specialists in any field of science related to agriculture, and (3) to disseminate reliable information through publications and through extension agents, and through a wise use of this information to give instruction to the agricultural workers of the State in the scientific, experimental, and practical progress in the various lines of agriculture.

All effective instruction in agriculture is based on research and investigation, and the curricula are organized so that not only the subject matter for classroom instruction and extension work may be drawn from research, experimentation, and demonstration, but that the students themselves shall have the opportunity to work under the direction of research specialists.

The vocations open to well trained young men in the field of agriculture and the opportunities afforded for distinct service to the State are greater than ever before in our history. In order that the larger vocations in agriculture may be presented to the youth of our State, the courses of study are so organized as to give specific training for the following major vocations:

General Farming.

Agricultural Extension Agents.

Agricultural Specialists in State or Federal Departments.

Stock Raising and Dairying.

Specialists in the Manufacture of Dairy Products.

Foresters.

Fruit Growers.

Truck Farming.

Poultrymen.

Agricultural Specialists in Foreign Lands.

In addition to these major vocations, the School of Agriculture gives instruction in Beekeeping, Floriculture, and the basic instruction for teachers of Agriculture.

ADMISSION

Each applicant for admission must present evidence that he has satisfactorily completed a four-year curriculum of not less than fifteen units in a secondary school which is approved by the State Department of Education.

Each applicant for admission must be at least sixteen years old, and must submit fifteen units of credit from an accredited high school. Of these units 8.5 are in specified subjects and 6.5 in elective subjects.

ADVANCED STANDING

Students who have attended other colleges will be allowed credit for work done upon the presentation of proper certificates to the Director of Instruction.

AGRICULTURAL CURRICULA FOR UNIVERSITY AND COLLEGE GRADUATES

Selected courses leading to the degree "Bachelor of Science" in Agriculture are offered to graduates of universities and standard colleges. These are arranged in accordance with the vocational aim of the individual student, and in the light of credits presented from the institution from which the student has been graduated, subject to the approval of his adviser and the Director of Instruction. In cases where the student presents enough credits which may be used for courses required in his curriculum he may be graduated with a B.S. degree in one year. In no case should it take more than two years to complete the work for his B.S. degree.

REQUIREMENTS FOR GRADUATION

The requirement for graduation is the satisfactory completion of one of the curricula outlined below.

A minimum of two hundred and thirty (230) term credits and two hundred and thirty (230) points is required for graduation from the School of Agriculture. The term credits should be distributed as follows: A maximum of sixty (60) term credits in major department, and a minimum of eighteen (18) term credits in Language, twenty-four (24) term credits in Science, eighteen (18) term credits in Social Science, twelve (12) term credits in Military Science or alternative, and six (6) term credits in Physical Education.

Students entering with advanced standing are required, during the remainder of their course, to earn at least as many points as the number of term credits remaining necessary for graduation.

DEGREES

The degrees of Bachelor of Science in Agriculture and Bachelor of Science in Forestry are conferred upon the satisfactory completion of one of the curricula in Agriculture.

The degree of Master of Science in Agriculture is offered for the satisfactory completion of one year of graduate study in residence. Candidates for this degree are enrolled as students in the Graduate School.

The professional degree of Master of Agriculture may be conferred upon graduates after five years of service in Agriculture, and upon the acceptance of a satisfactory thesis.

CURRICULA IN AGRICULTURE

The curricula in Agriculture offer a combination of practical and theoretical work. About half of the time is devoted to lectures and recitations, and the other half to work in shops, laboratories, greenhouses, dairy, poultry yards, and on the College farm.

In order that every graduate of the School of Agriculture shall acquire a liberal education in lieu of specializing too intensely, and shall become a leader having breadth of vision, the curricula in Agriculture contain broadening subjects such as language, literature, history, and social sciences.

The School of Agriculture and Forestry offer the following curricula:

- A. A curriculum in Agriculture with opportunities to specialize in
 1. Farm Business Administration
 2. Farm Marketing and Farm Finance
 3. Rural Sociology
 4. Animal Production
 5. Dairy Manufacturing
 6. Entomology
 7. Field Crops and Plant Breeding
 8. Floriculture
 9. Plant Pathology
 10. Pomology
 11. Poultry Science
 12. Soils
 13. Vegetable Gardening
 14. Agricultural Chemistry
- B. A curriculum in Agricultural Engineering
- C. A curriculum in Forestry
- D. A curriculum in Landscape Architecture
- E. A curriculum in Wildlife Management

GENERAL AGRICULTURE

The basic freshman and sophomore years are outlined below. This curriculum is intended to train students in board basic fields of agriculture. The curriculum of each student is to be arranged in accordance with his vocational aims subject to the approval of his adviser and the Director of Instruction. Students specializing in this curriculum will find vocational opportunities as:

Agricultural Specialists in State or Federal Departments, and Agricultural Colleges.

The School of Agriculture is equipped to train men as specialists in the various fields as indicated by the curricula outlined below.

Agricultural Inspectors.

Most states now maintain inspection of fertilizers, seeds, nurseries, and insecticides. Most cities have special inspectors for city milk supplies. Students seeking vocational opportunities in these fields may elect appropriate subjects in their junior and senior years.

Agricultural Extension Specialists.

Students in this group will find employment as agricultural agents for railroads and commercial firms dealing in agricultural products and as extension specialists in the various fields of agriculture in the extension departments of agricultural colleges and as county agricultural agents. **County Agent.**

The growing importance of marketing of agricultural products and the need for better organization of farms has given rise to a strong demand for county agents who have had special training in Agricultural Economics.

Agricultural Specialists and Commercial Agricultural Agents.

The School of Agriculture is well equipped to train men for agricultural industries such as manufacturing of fertilizers, livestock and poultry feeds and farm machinery, and for the manufacturing of dairy and horticultural products.

These concerns are usually anxious to obtain men who have had actual agricultural experience, and who, in addition, have had special training in agricultural economics, accounting, and statistics. This field is developing rapidly and offers a fine opportunity for students who wish to enter the purely commercial field.

Agricultural Specialists in Foreign Lands.

The School of Agriculture is well equipped to train men as experts in cotton and tobacco production in foreign lands.

Junior Agricultural Economist.

A position as a Junior Agricultural Economist involves research in Agricultural Economics. Such positions are usually available in the governmental departments such as United States Department of Agriculture and in various State institutions.

Farm Manager.

There is a growing demand for men who have had practical farm experience and who have special training in farm organization and management. This field is practically a new one, and there have been many requests for men with special training in farm management.

Marketing Specialists.

There is a growing demand for men who can manage coöperative marketing and other farmers' business associations.

CURRICULUM IN AGRICULTURE

Freshman Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Composition, Eng. 101.....	3	3	3
General Inorganic Chemistry, Chem. 101, 103, and 105.....	4	4	4
General Botany, Bot. 102.....	0	4	0
General Zoology, Zool. 101.....	4	0	0
Physical Geology, Geol. 120.....	0	0	4
Economic History, Hist. 101.....	3	3	3
Mathematical Analysis, Math. 100 a-b-c.....	3	3	3
Military Science I, Mil. 101, or alternate.....	2	2	2
Fundamental Activities and Hygiene, P.E. 101.....	1	1	1
	<hr/> 20	<hr/> 20	<hr/> 20

Sophomore Year

Farm Equipment, Agr. Eng. 130.....	0	3	0
Soils, Soils 115.....	0	0	4
General Economics, Econ. 103.....	3	3	0
Agricultural Economics, Agr. Econ. 260.....	0	0	3
Physics for Agricultural Students, Phys. 105.....	5	0	0
Animal Physiology, Zool. 201, or Plant Physiology, Bot. 209.....	0	0	5
Economic Zoology, Zool. 102.....	0	4	0
General Botany, Bot. 101.....	4	0	0
Introduction to Organic Chemistry, Chem. 241.....	0	4	0
Animal Nutrition I, A. H. 101.....	0	3	0
General Poultry, Poul. 101.....	3	0	0
Principles of Forestry, For. 104.....	3	0	0
General Horticulture, Hort. 101.....	0	0	3
General Field Crops, F.C. 101.....	0	0	3
Military Science II, Mil. 102, or alternate.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	<hr/> 21	<hr/> 20	<hr/> 21

CURRICULA IN AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY

Farm Business Administration Option

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
English	3	3	3
Farm Management I, Agr. Econ. 261.....	0	0	3
Accounting, Econ. 201.....	3	3	3
Statistical Methods, Econ. 312.....	3	3	0
Shop Work, M.E. 121, 122.....	1	1	0
Technical Agricultural Courses.....	3	3	3
Electives	5	5	6
	<hr/> 18	<hr/> 18	<hr/> 18

Senior Year

Agricultural Finance, Agr. Econ. 367.....	0	3	0
Farm Management II, Agr. Econ. 362.....	0	0	3
Farm Buildings, Agr. Eng. 145.....	0	3	0
Farm Cost Accounting, Agr. Econ. 263.....	0	3	3
Business Law, Econ. 211.....	3	0	0
Agr. Marketing, Agr. Econ. 265.....	3	0	0
Soils of North Carolina, Soils 315.....	0	3	0
Woodworking, M.E., 108.....	3	0	0
Drawing, C.E. 100.....	1	1	1
Farm Structures, Agr. Eng. 365.....	0	0	3
Technical Agricultural Courses.....	3	3	3
Electives	6	3	6
	<hr/> 19	<hr/> 19	<hr/> 19

Farm Marketing and Farm Finance Option

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
English	3	3	3
Marketing Methods, Econ. 215.....	3	3	0
Rural Sociology, Rur. Soc. 302.....	0	3	0
Agr. Marketing, Agr. Econ. 265.....	3	0	0
Statistical Methods, Econ. 312.....	3	3	0
Business Statistics, Econ. 314.....	0	0	3
Accounting I, Econ. 201.....	3	3	3
Electives	3	3	9
	<hr/> 18	<hr/> 18	<hr/> 18

Senior Year

Marketing Methods and Problems, Agr. Econ. 366.....	3	0	0
Cotton and Tobacco Marketing, Agr. Econ. 363.....	0	3	0
Agricultural Finance, Agr. Econ. 367.....	0	3	0
Agricultural Cooperation, Agr. Econ. 363.....	0	3	0
Farm Cost Accounting, Agr. Econ. 263.....	0	3	3
Farm Management I, Agr. Econ. 261.....	0	0	3
Community Organization, Rur. Soc. 305.....	0	0	3
Money, Credit, and Banking, Econ. 221.....	3	3	0
Business Finance, Econ. 223.....	0	0	3
Business Law, Econ. 211.....	3	0	0
Technical Agriculture	3	3	3
Electives	6	0	3
	<hr/> 18	<hr/> 18	<hr/> 18

Rural Sociology Option

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
English	3	3	3
General Sociology, Soc. 103.....	3	3	0
Rural Sociology, Rur. Soc. 302.....	0	0	3
History of Agriculture, Hist. 318.....	0	0	3
Statistical Methods, Econ. 312.....	3	3	0
American Government, Gov. 200.....	3	3	3
Accounting, Econ. 201.....	3	3	3
Electives	3	3	3
	18	18	18

Senior Year

Social Psychology, Psychol. 305.....	0	3	0
Social Pathology, Soc. 301.....	0	0	3
Farmers Movements, Rur. Soc. 303.....	0	0	3
The Family Organization, Soc. 306.....	3	0	0
Community Organization, Rur. Soc. 305.....	0	0	3
Population Problems, Soc. 311.....	0	3	0
Farm Management I, Agr. Econ. 261.....	0	0	3
Agr. Marketing, Agr. Econ. 265.....	3	0	0
Agricultural Coöperation, Agr. Econ. 363.....	0	3	0
Technical Agriculture	6	6	6
Electives	6	3	0
	18	18	18

CURRICULUM IN ANIMAL PRODUCTION

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Dairying, A.H. 208.....	0	3	0
Swine Production, A.H. 201.....	3	0	0
Farm Meats I, A.H. 206.....	0	3	0
Animal Nutrition II, A.H. 211.....	3	0	0
History of Breeds, A.H. 210.....	0	3	3
Herd Improvement, A.H. 304.....	0	0	3
Business English, Eng. 120.....	0	0	3
Public Speaking, Eng. 160.....	0	3	0
Southern Writers, Eng. 233.....	3	0	0
Genetics, Zool. 304.....	4	0	0
Legumes and Grasses, F.C. 205.....	0	0	4
Chemistry of Vitamins, Chem. 341.....	0	3	0
Farm Engines, Agr. Eng. 155.....	0	3	0
Market Grading of Field Crops, F.C. 332.....	3	0	0
Animal Hygiene and Sanitation, A.H. 221.....	0	0	3
Electives	3	0	3
	19	18	19

Senior Year

Animal Breeding, A.H. 202.....	4	0	0
Sheep Production, A.H. 205.....	0	0	3
Beef Cattle, A.H. 224.....	0	3	0
Pure Bred Livestock Production, A.H. 310.....	0	3	0
Stock Farm Management, A.H. 308.....	0	0	3
Horse and Mule Production, A.H. 209.....	3	0	0
Senior Seminar, A.H. 220.....	1	1	1
Incubation and Brooding, Poul. 103.....	0	0	3
Terracing and Drainage, Agr. Eng. 135.....	0	0	3
General Bacteriology, Bot. 203.....	0	4	0
Fruit Growing, Hort. 205.....	4	0	0
Agricultural Marketing, Agr. Econ. 265.....	3	0	0
Testing of Milk Products, A.H. 213.....	0	4	0
Business Law, Econ. 211.....	0	0	3
Electives	3	3	3
	18	18	19

CURRICULUM IN DAIRY MANUFACTURING

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Creamery Buttermaking, A.H. 212.....	4	0	0
Testing of Milk Products, A.H. 213.....	0	4	0
Ice Cream Making, A.H. 217.....	4	0	0
Cheese Making, A.H. 214.....	0	0	3
Dairy Manufacturing Practice, A.H. 215.....	0	3	0
City Milk Supply, A.H. 216.....	0	0	4
Business English, Eng. 120.....	0	0	3
Public Speaking, Eng. 160.....	0	3	0
Southern Writers, Eng. 233.....	3	0	0
Chemistry of Vitamins, Chem. 341.....	0	0	3
Animal Breeding, A.H. 202.....	4	0	0
Food and Nutrition, Chem. 344.....	0	3	0
Animal Hygiene and Sanitation, A.H. 221.....	0	0	3
Farm Engines, Agr. Eng. 155.....	0	3	0
Electives	3	3	3
	18	19	19

Senior Year

Dairy Machinery, A.H. 222.....	0	1	0
Dairy Products Judging, A.H. 223.....	0	0	1
Dairy Manufactures, A.H. 301.....	3	3	3
Senior Seminar, A.H. 220.....	1	1	1
General Bacteriology, Bot. 203.....	0	4	0
Swine Production, A.H. 201.....	3	0	0
Animal Nutrition II, A.H. 211.....	3	0	0
Farm Meats I, A.H. 206.....	0	3	0
Business Law, Econ. 211.....	0	0	3
Herd Improvement, A.H. 304.....	0	0	3
Food Products and Adulterants, Chem. 340.....	3	0	0
Stock Farm Management, A.H. 303.....	0	0	3
Agricultural Marketing, Agr. Econ. 265.....	3	0	0
Farm Accounting, Agr. Econ. 262.....	0	0	3
Pure Bred Livestock Production, A.H. 310.....	0	3	0
Electives	3	3	3
	19	18	20

CURRICULUM IN ENTOMOLOGY

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Systematic Zoology, Zool. 307.....	3	3	3
Genetics, Zool. 304.....	4	0	0
Comparative Anatomy, Zool. 205.....	0	4	4
Modern Language	3	3	3
Systematic Botany, Bot. 204.....	0	0	3
Physiological Chemistry, Chem. 342.....	3	3	0
Public Speaking, Eng. 160.....	0	3	0
Technical Writing II, Eng. 325.....	0	0	3
Electives	6	3	3
	19	19	19

Senior Year

Vertebrate Embryology, Zool. 207.....	5	0	0
Field Zoology, Zool. 309.....	0	0	4
Applied Entomology, Zool. 301.....	3	3	3
Modern Language	3	3	3
Beekeeping, Zool. 209.....	0	0	3
Plant Ecology, Bot. 307.....	3	0	0
Histology, Zool. 315.....	0	3	0
Bacteriology, Bot. 203.....	0	4	0
Electives	3	4	4
	17	17	17

CURRICULUM IN FIELD CROPS AND PLANT BREEDING

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Genetics, Zool. 304.....	4	0	0
English	3	3	3
Soil Fertility, Soils 265.....	3	0	0
Fertilizers, Soils 310	0	3	0
Cereal Crops, F.C. 201.....	0	4	0
Legumes and Grasses, F.C. 205.....	0	0	4
Major Options	5	5	4
Electives	3	3	7
	18	18	18

Senior Year

Major Options	6	6	6
Technical Agriculture	6	6	6
Electives	6	6	6
	18	18	18

CURRICULUM IN FLORICULTURE

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Public Speaking, Eng. 160.....	3	0	0
Plant Ecology, Bot. 307.....	3	0	0
Bacteriology, Bot. 203.....	0	4	0
Systematic Botany, Bot. 204.....	0	0	3
Diseases of Fruit and Vegetable Crops, Bot. 202.....	0	0	3
Genetics, Zool. 304.....	4	0	0
Economic Entomology, Zool. 204.....	0	0	4
Plant Propagation, Hort. 102.....	0	3	0
Soil Fertility, Soils 265.....	3	0	0
Soils of North Carolina, Soils 315.....	0	3	0
Fertilizers, Soils 310.....	0	3	0
Woody Plants, L.A. 216.....	2	2	2
Terracing and Drainage, Agr. Eng. 135.....	0	0	3
Plant Materials: Annual and Herbaceous Plants, L.A. 217.....	0	0	2
Electives	3	3	3
	18	18	20

Senior Year

Business English, Eng. 120.....	3	0	0
Technical Writing II, Eng. 325.....	0	0	3
Commercial Floriculture, Hort. 210.....	4	0	0
Horticultural Problems, Hort. 304.....	2	2	2
Seminar, Hort. 308.....	1	1	1
Experimental Horticulture, Hort. 301.....	0	3	0
Agricultural Cooperation, Agr. Econ. 363.....	0	3	0
Rural Sociology, Agr. Econ. 302.....	0	0	3
Agricultural Chemistry, Chem. 345.....	3	0	0
Plant Breeding, F.C. 345.....	3	0	0
Applied Psychology, Psychol. 269.....	0	3	0
Landscape Gardening, L.A. 204.....	0	0	3
Electives	3	6	6
	19	18	18

CURRICULUM IN PLANT PATHOLOGY

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Business English, Eng. 120.....	3	0	0
Public Speaking, Eng. 160.....	0	3	0
Technical Writing II, Eng. 325.....	0	0	3
Bacteriology, Bot. 203.....	0	4	0
Diseases of Field Crops, Bot. 201.....	3	0	0
Diseases of Fruit and Vegetable Crops, Bot. 202.....	0	0	3
Plant Ecology, Bot. 307.....	3	0	0
Economic Entomology, Zool. 204.....	0	0	4
Plant Morphology, Bot. 303 and 304.....	3	3	0
Plant Breeding, F.C. 345.....	3	0	0
Electives	3	8	5
	18	18	18

Senior Year

Plant Microtechnique, Bot. 205.....	3	0	0
Advanced Plant Pathology, Bot. 301.....	0	5	0
Mycology, Bot. 305.....	3	3	3
Soil Microbiology, Bot. 309.....	0	0	3
Genetics, Zool. 304.....	4	0	0
Microanalysis of Plant Tissue, Bot. 308.....	0	3	0
Qualitative Analysis, Chem. 211.....	4	0	0
Quantitative Analysis, Chem. 215.....	0	0	4
Electives	4	7	5
	18	18	18

CURRICULUM IN POMOLOGY

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Public Speaking, Eng. 160.....	3	0	0
Business English, Eng. 120.....	0	3	0
Technical Writing II, Eng. 325.....	0	0	3
Plant Ecology, Bot. 307.....	3	0	0
Small Fruits and Grapes, Hort. 105.....	3	0	0
Plant Propagation, Hort. 102.....	0	3	0
Vegetable Gardening, Hort. 209.....	0	0	4
Soil Fertility, Soils 265.....	3	0	0
Fertilizers, Soils 310.....	0	3	0
Terracing and Drainage, Agr. Eng. 135.....	0	0	3
Plant Materials, L.A. 203.....	0	2	0
Landscape Gardening, L.A. 204.....	0	0	3
Genetics, Zool. 304.....	4	0	0
Economic Entomology, Zool. 204.....	0	0	4
Applied Psychology, Psychol. 269.....	0	3	0
Electives	3	3	3
	19	17	20

Senior Year

Bacteriology, Bot. 203.....	0	4	0
Diseases of Fruit and Vegetable Crops, Bot. 202.....	0	0	3
Systematic Botany, Bot. 204.....	0	0	3
Systematic Pomology, Hort. 206.....	2	0	0
Fruit Growing, Hort. 205.....	4	0	0
Horticulture Problems, Hort. 304.....	2	2	2
Seminar, Hort. 308.....	1	1	1
Experimental Horticulture, Hort. 301.....	0	3	0
Farm Management I, Agr. Econ. 261.....	0	0	3
Plant Breeding, F.C. 345.....	3	0	0
Farm Meats I, A.H. 206.....	0	3	0
Agricultural Chemistry, Chem. 345.....	3	0	0
Rural Sociology, Rur. Soc. 302.....	0	3	0
Poultry Elective	0	0	3
Electives	3	3	3
	18	19	18

CURRICULUM IN POULTRY SCIENCE

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
English Elective	0	3	0
Technical Writing II, Eng. 325.....	0	0	3
Public Speaking, Eng. 160.....	0	0	3
Poultry Anatomy, Poul. 304.....	3	3	0
Poultry Judging, Poul. 302.....	4	0	0
Poultry Nutrition, Poul. 303.....	0	0	4
Preparation and Grading of Poultry Products, Poul. 208	0	3	0
Incubation and Brooding, Poul. 103.....	0	0	3
Bacteriology, Bot. 203.....	0	4	0
Genetics, Zool. 304.....	4	0	0
Vertebrate Embryology, Zool. 207.....	5	0	0
Cereal Crops, F.C. 201.....	0	4	0
Farm Management I, Agr. Econ. 261.....	0	0	3
Electives	3	3	3
	19	20	19

Senior Year

Poultry Diseases, Poul. 305.....	4	4	0
Sero-Diagnosis in Poultry Diseases, Poul. 308.....	0	0	3
Commercial Plant Management, Poul. 306.....	0	3	0
Selecting and Mating Poultry, Poul. 201.....	0	0	3
Senior Seminar, Poul. 310.....	0	0	3
Swine Production, A.H. 201.....	3	0	0
Dairy Cattle and Milk Production, A.H. 204.....	3	0	0
Fruit Growing, Hort. 205.....	4	0	0
Farm Meats I, A.H. 206.....	0	3	0
Rural Sociology, Rur. Soc. 302.....	0	3	0
Agr. Marketing, Agr. Econ. 265.....	3	0	0
Farm Machinery and Tractors, Agr. Eng. 250.....	0	0	3
Terracing and Drainage, Agr. Eng. 135.....	0	0	3
Chemistry of Vitamins, Chem. 341.....	0	3	0
Electives	3	3	3
	20	19	18

CURRICULUM IN SOILS

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
English Elective or Modern Language.....	3	3	3
Soil Fertility, Soils 265.....	3	0	0
Fertilizers, Soils 310.....	0	3	0
Soils of North Carolina, Soils 315.....	0	3	0
Qualitative and Quantitative Analysis, Chem. 211, 212, 213	4	4	4
Legumes and Grasses, F.C. 205.....	0	0	4
Electives	9	6	6
	19	19	17

Senior Year

Soil Technology, Soils 321.....	3	3	3
Pedology, Soils 320.....	3	0	0
Soil Conservation and Land Use, Soils 317.....	0	0	3
Soils Seminar, Soils 350.....	1	1	1
Bacteriology, Bot. 203.....	0	4	0
Organic Chemistry, Chem. 321.....	0	4	4
Drawing, C.E. 100.....	1	1	1
Electives	10	4	6
	18	17	18

CURRICULUM IN VEGETABLE GARDENING

For Freshman and Sophomore years refer to page 87.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Public Speaking, Eng. 160.....	3	0	0
Business English, Eng. 120.....	0	3	0
Plant Ecology, Bot. 307.....	3	0	0
Bacteriology, Bot. 203.....	0	4	0
Systematic Botany, Bot. 204.....	0	0	3
Diseases of Fruit and Vegetable Crops, Bot. 202.....	0	0	3
Fruit Growing, Hort. 205.....	4	0	0
Plant Propagation, Hort. 102.....	0	3	0
Vegetable Forcing, Hort. 211.....	0	3	0
Vegetable Gardening, Hort. 209.....	0	0	4
Soil Fertility, Soils 265.....	3	0	0
Fertilizers, Soils 310.....	0	3	0
Genetics, Zool. 304.....	4	0	0
Economic Entomology, Zool. 204.....	0	0	4
Terracing and Drainage, Agr. Eng. 135.....	0	0	3
Electives.....	3	3	3
	20	19	20

Senior Year

Technical Writing II, Eng. 325.....	3	0	0
Systematic Olericulture, Hort. 212.....	2	0	0
Small Fruits and Grapes, Hort. 105.....	3	0	0
Horticultural Problems, Hort. 304.....	2	2	2
Seminar, Hort. 308.....	1	1	1
Experimental Horticulture, Hort. 301.....	0	3	0
Home Floriculture, Hort. 228.....	0	0	3
Agricultural Chemistry, Chem. 345.....	3	0	0
Plant Breeding, F.C. 345.....	3	0	0
Plant Materials, L.A. 203.....	0	2	0
Landscape Gardening, L.A. 204.....	0	0	3
Agriculture Cooperation, Agr. Econ. 363.....	0	3	0
Dairying, A.H. 208.....	0	3	0
Soils of North Carolina, Soils 315.....	0	3	0
Rural Sociology, Rur. Soc. 302.....	0	0	3
Electives.....	3	3	6
	20	20	18

CURRICULUM IN AGRICULTURAL CHEMISTRY

For Freshman and Sophomore years refer to page 87.

Sophomore Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
General Botany, Bot. 101.....	4	0	0
Economic Zoology, Zool. 102.....	0	4	0
Animal Physiology, Zool. 201, or Plant Physiology, Bot. 209.....	0	0	5
Qualitative Analysis, Chem. 211	4	0	0
Quantitative Analysis, Chem. 212, 215.....	0	4	4
Soils, Soils 115.....	4	0	0
Bacteriology, Bot. 203.....	0	4	0
Animal Nutrition I, A.H. 101.....	0	0	3
General Economics, Econ. 103.....	3	3	0
Agricultural Economics, Agr. Econ. 260.....	0	0	3
Military Science II, Mil. 102 or alternate.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	<hr/> 18	<hr/> 18	<hr/> 18

Junior Year

Organic Chemistry, Chem. 321.....	4	4	4
Physics for Textile Students, Phys. 102, 103, 104.....	4	4	4
French or German.....	3	3	3
Elective Chemistry	3	3	3
Elective Agriculture	3	3	3
Electives	3	3	3
	<hr/> 20	<hr/> 20	<hr/> 20

Senior Year

Chemistry Major	7	7	7
French or German.....	3	3	3
Electives	9	9	9
	<hr/> 19	<hr/> 19	<hr/> 19

AGRICULTURAL ENGINEERING

This curriculum has been arranged to give its graduates sound and fundamental training in engineering, basic training in the agricultural sciences, and a specialized study in courses involving the application of engineering knowledge to agricultural problems.

Due to the great variety of work required of agricultural engineers, a number of subjects peculiar to other curricula are included, so that the student receives a considerable breadth of training. Engineering principles applied to agriculture have played an important part in the advancement and development of agricultural practices. Agricultural engineering as a profession, however, is of only comparatively recent development, but it is rapidly becoming recognized as one of the more important of the engineering professions, since it is identified with the most important of industries—agriculture. This course is especially suited to the boy brought up on the farm, as it prepares him for a professional business, or farming career, and enables him to capitalize on his farm training.

Subdivided on the basis of engineering technique, Agricultural Engineering embraces three general fields: (1) Power and Machinery, including Rural Electrification; (2) Farm Structures, including Sanitation, Materials of Construction and Equipment, and (3) Land Reclamation, which includes Irrigation, Drainage, Soil Erosion Control, and other forms of mechanical improvement of agricultural lands.

Occupations open to graduates are, briefly: teaching, experiment station and extension service positions with colleges and the government; engineers in land reclamation, drainage, or irrigation enterprises; designing, advertising, sales and production work with manufacturers of farm machinery, equipment, and building materials; rural electrification work; editorial work with publishers; appraisal and agricultural engineering consultant service.

CURRICULUM IN AGRICULTURAL ENGINEERING

Freshman Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Algebra, Trigonometry, and Analytical Geometry, Math. 101, 102, 103.....	6	6	6
Composition, Eng. 101.....	3	3	3
General Inorganic Chemistry, Chem. 101, 103, 105.....	4	4	4
Engineering Drawing II, M.E. 105, 106.....	3	3	0
Descriptive Geometry, M.E. 107.....	0	0	3
Military Science I, Mil. 101, or alternate.....	2	2	2
Fundamental Activities and Hygiene, P.E. 101.....	1	1	1
	19	19	19

Summer requirement:—Surveying, C.E. 102.

Sophomore Year

Differential Calculus, and Integral Calculus I, II, Math. 201, 202, 203.....	4	4	4
Business English, Technical Writing I, *Public Speaking Eng. 120, 324, 160, or †Spanish, M.L. 103.....	3	3	3
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
Farm Equipment, Agr. Eng. 130.....	3	0	0
Farm Engines, Agr. Eng. 155.....	0	3	0
Soils, Soils 115.....	0	0	4
Economic History, Hist. 101.....	3	3	3
Military Science II, Mil. 102, or alternate.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	20	20	21

Junior Year

Farm Buildings, Agr. Eng. 145.....	0	3	0
General Zoology, Zool. 101.....	4	0	0
General Botany, Bot. 102.....	0	4	0
General Economics, Econ. 103.....	3	3	0
Agricultural Economics, Agr. Econ. 260.....	0	0	3
Terracing and Drainage, Agr. Eng. 135.....	0	0	3
Farm Conveniences, Agr. Eng. 147.....	0	3	0
Teaching of Farm Shop Work, Agr. Eng. 217.....	3	3	0
Animal Nutrition I, A.H. 101.....	0	0	3
Engineering Mechanics, E.M. 211, 212, 213.....	3	3	3
General Field Crops, F.C. 101.....	0	0	3
General Horticulture, Hort. 101.....	0	0	3
Electives	6	0	3
	19	19	21

Senior Year

Farm Management I, Agr. Econ. 261.....	0	0	3
Engineering Geology, Geol. 201.....	3	0	0
Dairy Cattle and Milk Production, A.H. 204.....	3	0	0
Rural Sociology, Agr. Econ. 302.....	0	3	0
Rural Sanitation, Bot. 206.....	0	3	0
Farm Machinery and Tractors, Agr. Eng. 250.....	0	0	3
Problems in Agr. Eng., Agr. Eng. 335.....	3	3	3
Erosion Prevention, Agr. Eng. 360.....	0	0	3
Farm Structures, Agr. Eng. 365.....	0	0	3
Rural Electrification, Agr. Eng. 370.....	0	3	0
Soil Fertility, Soils 265.....	3	0	0
Soil Erosion Control, Soils 317.....	0	0	3
Senior Seminar, Agr. Eng. 350.....	1	1	1
Electives	6	6	0
	19	19	19

* Either Principles of Journalism, Eng. 150, or some term of a course in American or English Literature may be elected in place of Public Speaking.

† With the consent of the advisor, another course in modern language may be elected in place of the one prescribed as alternative to the course in English.

FORESTRY

The aims of the curriculum in Forestry are: (1) to train young men for work in the technical and applied fields of forestry on public or private forest land; (2) to give special training in fields of research; (3) to advance the knowledge of the entire profession.

The profession of forestry is comparatively young in North Carolina. It began some thirty years ago and has made remarkable progress during its first quarter century of existence. The next decade promises more advancement and achievement than all of the past because the foundation has been laid and the building of the superstructure will depend upon the expertness of the builders. In the ranks of the builders are included the United States Forest Service; State Forest Departments in a large number of states; corporations and lumber companies; individual landowners, and last, but by no means least, the farm woodlands.

Students completing the forestry course may look to the following fields of employment: United States Forest Service, the State Service, including not only North Carolina, but especially the Southern States and any other state organizations, the lumber companies, timber-holding companies, corporations, and individuals. The forestry program in the State of North Carolina is very materially strengthened by the presence of the national forests and the Appalachian forest experiment station. These will be of direct aid in the study of forest research problems, management problems and the organization and work of the National Forest Service.

Forest management aims to make a forest properly a permanent producing unit. All forestry is now being built on this basis.

The field of forest utilization requires special courses dealing with the utilization of the products of the forest. During the third term of the senior year field studies of woodworking industries, logging operations, paper and pulp mills and problems in forest management take up most of the time.

The field of silviculture deals with the problems of producing a forest, such as selection of species, methods of reproduction, cutting systems, etc. The work is becoming increasingly important as our virgin timber supply is depleted.

Research in forestry problems is being recognized by all agencies in the fields of Forestry. Men trained in research methods are needed in the government experiment stations, state experiment stations, and private laboratories.

Two hundred and thirty-five (235) credits and two hundred and thirty-five (235) points are required for graduation in Forestry.

A field trip through the southeast and Gulf states is required for the senior class to study applied forestry under field and factory conditions. Local field trips are also required of other classes. A nominal fee is charged to cover the expense of these trips.

CURRICULUM IN FORESTRY

Freshman Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Drawing, C.E. 100.....	1	1	1
Botany, General and Systematic, Bot. 101, 102, 204.....	4	4	3
Mathematical Analysis, Math. 100 a, b, c.....	3	3	3
Composition, Eng. 101.....	3	3	3
Zoology, Zool. 101, 102.....	4	4	0
Economic Entomology, Zool. 204.....	0	0	4
Elementary Forestry, For. 101.....	1	1	1
Introductory Sociology, Soc. 102.....	0	0	3
Military Science I, Mil. 101, or Human Relations, Soc. 101.....	2	2	2
Fundamental Activities and Hygiene, P.E. 101.....	1	1	1
	19	19	21

Sophomore Year

Introduction to Economics, Econ. 102.....	0	3	0
Land Economics, Agr. Econ. 269.....	0	0	3
Plant Physiology, Bot. 209.....	0	0	5
Dendrology, Bot. 207.....	3	0	3
General Inorganic Chemistry, Chem. 101, 103, 105.....	4	4	4
Wood Technology, For. 102.....	0	3	0
Physical Geology, Geol. 120.....	4	0	0
Timber Physics, For. 103.....	0	0	3
Surveying, Theoretical C.E. 206.....	3	3	0
Field Surveying, C.E. 207.....	1	0	0
Topographical Drawing, C.E. 208 a.....	0	1	0
Introduction to Psychology, Psychol. 101.....	3	0	0
Military Science II, Mil. 102, or World History, Hist. 104.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	21	17	21

Summer Camp

Surveying and Mapping, C.E. s101.....	0	0	3
Dendrology, For. s211.....	0	0	3
Mensuration III, For. s200.....	0	0	3
Silviculture, For. s203.....	0	0	3
	0	0	12

Junior Year

Soils, Soils 115.....	4	0	0
Mensuration I, II, For. 201, 202.....	0	3	3
Silviculture I, II, For. 204, 205.....	3	3	0
English.....	3	0	3
Forest Entomology, Zool. 210.....	0	3	0
Plant Ecology, Bot. 307.....	3	0	0
Meteorology, Phys. 209.....	0	3	0
Forest Finance, For. 308.....	0	3	0
Methods of Research in Forestry, For. 311.....	0	0	3
Statistical Methods, Econ. 312.....	3	3	0
Elective in Social Science Group.....	0	0	6
Electives.....	3	3	3
	19	21	18

Senior Year

Logging, For. 303.....	3	0	0
Lumbering, For. 304.....	0	3	0
Lumber Seasoning, For. 305.....	0	0	2
Diseases of Forest Trees, Bot. 208.....	3	0	0
Silviculture III, IV, For. 301, 302.....	3	3	0
Forest Management, For. 306, 307.....	3	3	0
Seminar, For. 310.....	0	2	0
Forest Products, For. 206.....	3	0	0
Forest Utilization, For. 207.....	0	0	2
Timber Appraisal, For. 309.....	0	0	2
English.....	0	3	0
Senior Field Trip, For. 317.....	0	0	3
Electives.....	3	3	3
	18	17	12

LANDSCAPE ARCHITECTURE

A comparative study of Landscape Architecture with Architecture, the oldest art of design, will disclose the fact that distinct parallelism exists between these two fields of human endeavor. Not only in the character and extent of the training required in each case is this shown, but also in the division of work which takes place, and in the relationships existing among those responsible for various parts of the work in the practice of these two closely associated professional fields.

Training in Landscape Architecture is a composite derived from the fields of the fine arts, certain branches of engineering, and ornamental horticulture. Properly it is dominated by the principles of design, and therefore correctly classed with Architecture, Sculpture and Painting. Its province is the design of landscapes, and the preparation of plans and specifications for their construction.

Training in Landscape Construction is also a composite derived from the same fields, but with emphasis upon the materials and methods of construction employed in Civil Engineering and ornamental horticulture. Its province is the execution of plans and specifications for landscapes as prepared by the landscape architect or designer.

Training in Landscape Gardening is essentially ornamental horticulture, with some knowledge of the principles of design and of construction. Its particular province is the maintenance of designed and constructed landscapes.

The curriculum in Landscape Architecture is strictly undergraduate work, and is designed to provide a broad and thorough foundation for the additional post-graduate training required by the profession for entrance into its ranks. Such subsequent training, together with some professional practice should present an open door to the entire field of the Landscape Architect, of the City Planner, or of the Regional Designer, as the professional student may elect.

Students who wish to fit themselves for work in Landscape Construction or in Landscape Gardening will for their first two years pursue the basic curriculum for Agriculture, with substitutions from other curricula as indicated. The outline of the courses for the last two years will provide the necessary differentiation between these two lines of work. Specialization in the present day demands that technical training for specific lines of human endeavor shall be most efficient.

CURRICULUM IN LANDSCAPE ARCHITECTURE

Freshman Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Algebra, Trigonometry, Analytical Geometry, Math. 101, 102, 103.....	6	6	6
Composition, Eng. 101.....	3	3	3
Botany, General and Systematic, Bot. 101, 102, 204.....	4	4	3
Engineering Drawing II, and Descriptive Geometry, M.E. 105, 106, 107.....	3	3	3
Arboriculture, L.A. 106.....	1	1	2
Military Science I, Mil. 101, or Human Relations, Soc. 101.....	2	2	2
Fundamental Activities and Hygiene, P.E. 101.....	1	1	1
	20	20	20

Sophomore Year

Business English and Technical Writing, Eng. 120, 324.....	3	3	0
Plant Physiology, Bot. 209.....	0	0	5
Plant Propagation and Nursery Practice, Hort. 102.....	3	0	0
Physical Geology, Geol. 120.....	0	0	4
Introduction to Economics, Econ. 102.....	0	3	0
Introduction to Psychology, Psychol. 101.....	3	0	0
Introduction to Architecture, Arch. 100.....	3	0	0
Elements of Architecture, Arch. 101.....	0	3	3
Surveying, Theoretical, C.E. 206.....	3	3	0
Field Surveying, C.E. 207.....	1	1	1
Plant Materials, Woody Plants, L.A. 216.....	2	2	2
Theory of Landscape Design, L.A. 218.....	0	3	3
Military Science II, Mil. 102, or World History, Hist. 104.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	21	21	21

Junior Year

Plant Materials: Herbaceous Plants, L.A. 217.....	0	0	2
Plant Ecology, Bot. 307.....	3	0	0
History of Landscape Design, L.A. 219.....	3	3	0
Landscape Design I, L.A. 220.....	4	4	4
Public Speaking, Eng. 160.....	0	0	3
Shades and Shadows, Arch. 102.....	2	0	0
Freehand Drawing I, Pen and Pencil Drawing, Arch. 104.....	2	0	0
Freehand Drawing II, Water Color, Arch. 105.....	0	2	0
Freehand Drawing III, Charcoal, Arch. 106.....	0	0	2
Perspective Drawing, Arch. 201.....	0	2	0
Economic Zoology and Entomology, Zool. 102, 204.....	0	4	4
History of Architecture, Arch. 205.....	3	3	0
Topographic Drawing, C.E. 208a.....	0	1	0
Electives.....	3	0	5
	20	19	20

Senior Year

Planting Design, L.A. 221.....	3	3	3
Landscape Design II, L.A. 222.....	4	4	4
City Problems, L.A. 223.....	0	3	0
Landscape Construction, L.A. 225.....	2	2	2
Pencil Sketching, Arch. 107.....	3	0	0
Accounting for Engineers, Econ. 112.....	0	0	3
Appreciation of Fine Arts, Arch. 208.....	3	3	3
Electives.....	3	3	3
	18	18	18

WILDLIFE CONSERVATION AND MANAGEMENT

The wildlife management curriculum is based on the following fundamental principles: (1) All forms of wild animal life must be considered in any extensive system of wildlife management; (2) the animal life of any given area is in close relationship to the vegetation existing in that area; (3) under the proper environmental conditions the beneficial species of wildlife will normally produce a surplus, a part of which can be harvested each year in a manner similar to the harvesting of other crops.

Since wildlife management is just getting under way in this country, it would not seem advisable to encourage too rapid an expansion of this profession at the present time, although there is a distinct need for a moderate number of well-trained men to promote and supervise wildlife management work in the many sections of the country.

The curriculum is designed to furnish a technical and practical background for the following types of positions: (1) Wildlife management technicians in State Game and Fish Departments; (2) biologists in the United States Biological Survey, Forest Service, Soil Conservation Service, National Park Service, and other federal land-use departments; (3) game managers on private preserves or leased areas, State game refuges, and on other land areas which are being developed primarily for wildlife.

Because of the great need for research and experimental work in this field, the required courses in the curriculum are also designed to give the basic technique necessary to students who may desire to enter this phase of wildlife management. Several elective courses will be available for junior and senior students to enable them to specialize in some particular phase of the work.

Unusual advantages are offered to competent students by the wide range of natural environments in the North Carolina coastal plain, piedmont, and mountain areas. Further advantages are available, due to close cooperation with the State Division of Game and Inland Fisheries and the opportunity to observe developments in wildlife management on the following areas: Mount Mitchell Game Preserve, Resettlement Sandhill Project, Soil Conservation Service projects, Mattamuskeet Water Fowl Preserve, and preserves in the piedmont and coastal plain areas.

CURRICULUM IN WILDLIFE CONSERVATION AND MANAGEMENT

Freshman Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Composition, Eng. 101.....	3	3	3
General Inorganic Chemistry, Chem. 101, 103, 105.....	4	4	4
Mathematical Analysis, Math. 100 a, b, c.....	3	3	3
General Zoology, Zool. 101.....	4	0	0
Economic Zoology, Zool. 102.....	0	4	0
Physical Geology, Geol. 120.....	0	0	4
Economic History, Hist. 101.....	3	3	3
Elementary Wildlife Management, Zool. 109.....	0	0	1
Military Science I, Mil. 101 or alternate.....	2	2	2
Fundamental Activities and Hygiene, P.E. 101.....	1	1	1
	<hr/> 20	<hr/> 20	<hr/> 21

Sophomore Year

Botany, General and Systematic, Bot. 101, 102, 204.....	4	4	3
Introduction to Organic Chemistry, Chem. 241.....	0	0	4
Introduction to Economics, Econ. 102.....	0	3	0
Land Economics, Agr. Econ. 269.....	0	0	3
Public Speaking, Eng. 160.....	3	0	0
Comparative Anatomy, Zool. 205.....	0	4	4
General Field Crops, F.C. 101.....	0	3	0
Ornithology, Zool. 222.....	2	2	2
Plant Propagation and Nursery Practice, Hort. 102.....	3	0	0
Surveying, Theoretical, C.E. 206.....	3	3	0
Surveying, Field, C.E. 207.....	1	0	0
Principles of Forestry, For. 104.....	3	0	0
Military Science II, Mil. 102 or alternate.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	<hr/> 22	<hr/> 22	<hr/> 19

Junior Year

Plant Ecology, Bot. 307.....	3	0	0
Field Zoology, Zool. 309.....	0	0	4
General Bacteriology, Bot. 203.....	0	4	0
Economic Entomology, Zool. 204.....	0	0	4
Animal Physiology, Zool. 201.....	0	0	5
Wildlife Conservation, Zool. 310.....	3	3	3
Technical Writing II, Eng. 325.....	0	3	0
Soils, Soils 115.....	4	0	0
Elective Social Science.....	3	0	0
Electives	6	9	3
	<hr/> 19	<hr/> 19	<hr/> 19

Senior Year

Elective English	3	0	0
Wildlife Management, Zool. 320.....	3	3	3
Dendrology, Bot. 207.....	3	0	3
Advanced Plant Ecology, Bot. 310.....	0	0	3
The Soils of North Carolina, Soils 315.....	0	3	0
Advanced Animal Ecology, Zool. 324.....	0	3	3
Parasitology, Zool. 323.....	0	3	3
Electives	9	6	3
	<hr/> 18	<hr/> 18	<hr/> 18

THE AGRICULTURAL EXPERIMENT STATION

The North Carolina Agricultural Experiment Station was established originally as a division of the State Department of Agriculture in accordance with an act of the General Assembly of 1877. Its work was greatly promoted by an act of Congress of 1887, known as the Hatch Act, which contributed a definite sum to each state for the purpose of making investigations in agriculture. The funds for the Experiment Station were further supplemented by an act of Congress of 1906, known as the Adams Act, and again the same way by an act of Congress of 1925, known as the Purnell Act. Under the requirements of the Hatch Act the Station became a department of the College.

The Agricultural Experiment Station embraces a central farm located at the College and a corps of trained investigators who devote their time and attention to solving the more important problems in soils, crops, animal industry, dairying, horticulture, poultry, plant diseases, and entomology, rural sociology, and agricultural economics.

Some one hundred and ninety different projects have been approved and are being investigated by these workers.

"The agricultural research of the College and Experiment Station have been materially strengthened through the inauguration of plans whereby teachers in agriculture and the biological sciences have been given some time to do research. This has been definitely organized and is now administered under the Experiment Station, making it possible to coördinate related research work, and making possible closer coöperation between the teaching and research group."

Six branch Experiment Stations of the State Department of Agriculture are used coöperatively with the College for work in the field on the different soils and under the different climatic conditions of the State.

The Station conducts a large correspondence with farmers and others concerning agricultural matters, and it takes pleasure in receiving and answering questions. The Agricultural Experiment Station is always glad to welcome visitors and to show them the work in progress.

The purposes of the Agricultural Experiment Station are:

To carry on experiments for the improvement of agriculture which will be of service to the farmers and to the agricultural teachers and extension workers.

To demonstrate improved methods of agriculture to the farmers of the State, and

To publish bulletins relating to agriculture, embodying the results of experiments, and to distribute them to the people of the State, thereby furthering the cause of agricultural progress.

CO-OPERATIVE AGRICULTURAL EXTENSION WORK

The Agricultural Extension Service of the College is conducted in co-operation with the State and the United States Department of Agriculture and the various counties of the State. The work is supported by Federal funds derived from the Smith-Lever Act, from State appropriations which supplement the Smith-Lever Fund, and from county funds. The purposes of the Agricultural Extension Service are: (1) To carry new agricultural information and good practices to the farmers and farm women of the State through the County Agricultural and Home Demonstration Agents; (2) to conduct agricultural clubs for the boys and girls of the State, in which the young people are taught to grow crops and rear animals according to the teachings of modern agriculture; (3) to publish monthly letters and bulletins for the aid of extension workers and for the benefit of farmers; (4) to organize club schools during the summer, at which the members are given two or three days of technical instruction. In addition to these club schools there is also held at State College a short course for members of all clubs.

COLLEGE EXTENSION COURSES IN AGRICULTURE

General information about College extension and correspondence courses may be found elsewhere in this catalog, and bulletins giving detailed information are issued from time to time.

THE DEPARTMENT OF EDUCATION

THOMAS EVERETT BROWNE, *Director*

The Department of Education at State College, operating as a Department of the Division of Education of the Greater University of North Carolina, will continue to make its contribution to the agricultural, industrial, and economic life of North Carolina in a very distinctive and definite fashion. The specific function of this department will be to prepare teachers and educational leaders in the agricultural and technological fields.

This preparation will involve the guidance and direction of those students interested in teaching as a vocation, in the selection of courses, in planning their professional careers, in their observation of teaching and in their programs of directed teaching. Members of the staff of the department make arrangements for observation and practice teaching in selected high schools of the State and supervise the work of these students while they are out teaching. All trainees are given an opportunity to meet the requirements of the State Department of Public Instruction with respect to observation and practice teaching.

Not only does this preparation involve a mastery of subject matter courses in the teaching fields of their choice, but the completion of a gamut of professional courses including educational psychology, principles, and special methods of teaching and administration.

The Department of Education coöperates closely with all the schools on the campus, where the subject-matter courses for the various teaching fields are given. Its chief function is to provide the professional training for the student preparing to teach, and to advise, guide, and assist the student in getting ready for entrance into the teaching profession and in securing employment in his chosen vocation. While the main objective of the department is to provide definite and specific curricula for those students who have chosen teaching as a profession, it also serves those students in other curricula who wish to choose elective work in education.

AGRICULTURAL EDUCATION

The preparation of men to occupy positions as teachers of vocational agriculture in the high schools of the State, qualifying under the provisions of the Smith-Hughes Law, is one of the distinct activities of the College. State College is the designated teacher-training institution for teachers of agriculture in the white schools.

The program for the preparation of teachers of agriculture provides for the participation of the students in as many of the activities of agriculture teaching as is practicable.

Provision is made for seniors to teach under the supervision of the staff in agricultural education, assisted by the regular teachers of agriculture with whom they are carrying on their practice.

Advanced courses in agricultural teaching are offered and graduate students are afforded the opportunity of making studies of problems of their special interests.

INDUSTRIAL EDUCATION

The rapid growth of industry in North Carolina, the difficulty employers have in finding competent workers, the increasing number of young men who are denied work because they are not skilled, the raising of the entrance age to industry, and the increasing school enrollments are some of the factors responsible for the rapid increase in the demand for the operation of shop courses of industrial education in our public schools. It is to prepare teachers for this field of service that this program is designed. The teacher who completes this course will be prepared to teach in the all-day, the part-time, or the evening school, such as are supported by state and federal vocational funds.

A balanced program of training has been planned with general college courses and shopwork during the first two years. The professional courses, including observation and practice teaching, are included in the last two years. Successful completion of this course leads to the degree of Bachelor of Science in Industrial Education.

Candidates for this degree must have had at least two years of successful journeyman experience in the trade they wish to teach.

Men with journeyman experience who desire to take only professional courses may enter as special students, with the object of completing one or two years' of training as outlined for the junior and senior years. For this work no degree is granted.

The shop and drawing courses of this curriculum are offered by the Architectural, Electrical, and Mechanical Departments of the School of Engineering, in coöperation with the Department of Industrial Education.

This division is recognized as the official training department in industrial education for the State Department of Education. It is responsible for itinerant teacher-training service for part-time, day trade, and evening schools, and for the preparation of prospective teachers.

INDUSTRIAL ARTS EDUCATION

The development of industries in the State of North Carolina is accompanied by an increasing demand for acquaintance with materials, processes, and uses. For nearly a half a century North Carolina State College of Agriculture and Engineering has had a large part in the preparation of men and the development of facilities to cope with the problems involved. In this effort the training of teachers who are qualified to give this instruction is an important part.

In endeavoring to meet these needs the course Industrial Arts Education has been formulated to prepare teachers for the junior and senior high schools, where they will have charge of courses in shopwork and drawing. The successful completion of this curriculum leads to the degree of Bachelor of Science in Industrial Arts Education and the earning of an "A" grade certificate for teaching arts subjects.

The first two years of this curriculum are in line with the general plan of the College which emphasizes work of fundamental value and consists of required shop practice and drawing, English, mathematics, social and natural sciences, military training, and physical education. The last two years are given to work of a professional and specialized nature as education, psychology, economics, methods of teaching, practice teaching, analysis of occupations and trades, vocational guidance, and school shop organization and administration.

The shop and drawing courses are offered by the various departments of the College in coöperation with the Department of Education. The shopwork will deal with problems in wood, metal, electricity, auto mechanics, textiles, clay, and printing while the drawing will stress work in the mechanical and freehand fields.

The curriculum is intended for those who wish to become teachers, heads of departments, supervisors, or directors of industrial arts in the public schools. Men with this preparation are the ones who with continued study become the leaders in their field.

PSYCHOLOGY

The general work in psychology is recognized as a fundamental part of students' general educational training. It aims to give the student a better understanding of human behaviour as it develops in response to both biological and social forces. Certain specialized courses of an applied nature have been developed in response to the educational needs of some curricula. Educational psychology formulates the basic principles upon which various educational methods and principles are developed, and is therefore required in all curricula in education. Advanced courses in educational psychology of a more specialized nature are designed to give the student a better understanding and appreciation of some particular phase of the individual pupils in their educational relations.

In addition to the work of instruction in the College and in the training of teachers, the division of psychology assists in the testing and advisory work with students, and is constantly called upon by school principals, teachers and parents to lend advice in a testing program or aid in making case studies of exceptional and problem children.

TEACHERS AND COUNSELORS OF VOCATIONAL GUIDANCE

The increasing interest in vocational guidance is making demands for teachers who are prepared to participate in organization phases. Effective vocational guidance is dependent upon hearty coöperation of all teachers in the school system. There is a growing need for leaders who are familiar with subject matter, tests and measurements, school objectives and practices, and the requirements of various occupations, trades, and professions. One who wishes to undertake this work as a leader must

realize the importance of the collection and preparation of materials for the use of teachers and pupils and the qualifications essential for counseling individuals and groups. Members of the faculty of the Department of Education will be glad to discuss problems with students desiring to enter this field.

REQUIREMENTS FOR GRADUATION

The requirement for graduation in the Department of Education is the satisfactory completion of one of the curricula in the department. Beginning with 1938, the requirement for graduation in all the curricula will be the completion of 225 hours with an equal number of points, except for those graduating in Agricultural Education in 1938, only 221 hours and 221 points will be required.

Students who enter with advanced standing are allowed one point for each term credit accepted.

All students in Education will be required to take at least twenty-seven (27) term credits in Education, eighteen (18) term credits in Language, eighteen (18) term credits in Science, eighteen (18) term credits in Social Science, twelve (12) term credits in Military or the alternative, and six (6) in Physical Education. The credits required for graduation are to be chosen from the technical subjects listed in the several curricula and from the electives.

DEGREES

Students completing the curriculum in Agricultural Education will be granted the degree of Bachelor of Science in Agricultural Education, and students completing the curriculum in Industrial Education will be granted the degree of Bachelor of Science in Industrial Education, and students completing the curriculum in Industrial Arts Education will be granted the degree of Bachelor of Science in Industrial Arts Education.

CURRICULA

The following curricula are offered in the Department of Education. For specific information about any of the curricula write to the person whose name appears after the curriculum, all of whom may be addressed at State College Station, Raleigh.

1. Curriculum for Teachers of Agricultural Education (Professor L. E. Cook).
2. Curriculum for Teachers of Industrial Arts and Guidance (Professor E. W. Boshart).
3. Curriculum for Teachers of Industrial Education and Shop Work (Professor J. Warren Smith).

CURRICULUM FOR TEACHERS OF AGRICULTURE

Freshman Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Composition, Eng. 101.....	3	3	3
General Inorganic Chemistry, Chem. 101, 103, 105.....	4	4	4
General Botany, Bot. 102.....	0	4	0
General Zoology, Zool. 101.....	4	0	0
Mathematical Analysis, Math. 100 a, b, c.....	3	3	3
Economic History, Hist. 101.....	3	3	3
Physical Geology, Geol. 120.....	0	0	4
Military Science I, Mil. 101, or Alt.			
Human Relations, Soc. 101.....	2	2	2
Fundamental Activities and Hygiene, P.E. 101.....	1	1	1
	20	20	20

Sophomore Year

Farm Equipment, Agr. Eng. 130.....	3	0	0
Soils, Soils 115.....	0	0	4
General Economics, Econ. 103.....	3	3	0
Agricultural Economics, Agr. Econ. 260.....	0	0	3
Physics for Agr. Students, Phys. 105.....	5	0	0
Animal Physiology, Zool. 201, or			
Plant Physiology, Bot. 209.....	0	0	5
Economic Zoology, Zool. 102.....	0	4	0
General Botany, Bot. 101.....	4	0	0
Introduction to Organic Chemistry, Chem. 241.....	0	4	0
Animal Nutrition I, A.H. 101.....	0	3	0
General Poultry, Poul. 101.....	0	3	0
Principles of Forestry, For. 104.....	3	0	0
General Horticulture, Hort. 101.....	0	0	3
General Field Crops, F.C. 101.....	0	0	3
Military Science II, Mil. 102, or Alt.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	21	20	21

Junior Year

English, elective	3	0	3
Education, Ed. 203, 203.....	3	3	3
Teaching Farm Shop Work, Agr. Eng. 217.....	3	3	0
Farm Management, Agr. Econ. 261.....	0	0	3
Farm Accounting, Agr. Econ. 262.....	0	0	3
Soil Fertility, Soils 265.....	3	0	0
Fertilizers, Soils 310.....	0	3	0
Rural Sociology, Rural Soc. 302.....	0	3	0
*Diseases of Field Crops, Bot. 201.....	3	0	0
Economic Entomology, Zool. 204.....	0	0	4
†Electives	6	6	3
	21	18	19

Senior Year

English, elective	0	0	3
Materials and Methods in Teaching Agriculture, Ed. 312.....	0	5	0
Secondary Education in Agriculture, Ed. 326.....	0	0	3
Principles of Teaching, Ed. 306.....	3	0	0
Observation and Directed Teaching, Ed. 308.....	0	5	0
Methods of Teaching Agriculture, Ed. 307.....	5	0	0
Evening Classes and Community Work, Ed. 311.....	0	5	0
‡Animal Hygiene and Sanitation, A.H. 221.....	0	0	3
Agricultural Marketing, Agri. Econ. 265.....	3	0	0
Community Organization, Rural Soc. 305.....	0	0	3
†Electives	3	0	3
	14	15	15

* Diseases of Fruit and Vegetable Crops, Bot. 202, may be substituted for Bot. 201.

† Options and electives must be chosen with the approval of the adviser.

‡ Common Diseases, A.H. 219, may be substituted for A.H. 221.

CURRICULUM FOR TEACHERS OF INDUSTRIAL ARTS

Freshman Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Composition, Eng. 101.....	3	3	3
Mathematical Analysis, Math. 100 a, b, c, or Algebra, Trigonometry and Analytical Geometry, Math. 101, 102, 103.....	3 or 6	3 or 6	3 or 6
General Chemistry, or Optional Science.....	4	4	4
Engineering Drawing II, M.E. 105, 106.....	3	3	0
Descriptive Geometry, M.E. 107.....	0	0	3
Industrial Arts, Ed. 106.....	3	3	3
Military Science I, Mil. 101 or World History, Hist. 104.....	2	2	2
Fundamental Activities and Hygiene, P.E. 101.....	1	1	1
	19 or 22	19 or 22	19 or 22

Sophomore Year

Business English, Eng. 120, Principles of Journalism, Eng. 150, Public Speaking, Eng. 160.....	3	3	3
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
Economic History, Hist. 101.....	3	3	3
Project Design, Ed. 232, A and B.....	2	3	3
Freehand Drawing I, Pen and Pencil Drawing, Arch. 104	0	0	0
Freehand Drawing II, Water Color, Arch. 105.....	0	2	0
Freehand Drawing III, Charcoal Drawing, Arch. 106.....	0	0	2
Shop Work, M.E. 125, 126.....	0	2	2
Military Science II, Mil. 102 or *Elective.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
Electives.....	4	0	0
	19	20	20

Junior Year

Educational Psychology, Ed. 203.....	3	3	0
General Sociology, Soc. 103.....	3	3	0
Introduction to Economics, Econ. 102.....	0	3	0
Business Law, Econ. 211.....	0	0	3
Vocational Education, Ed. 321.....	3	0	0
Visual Aids, Ed. 203.....	0	0	3
Practices in Industrial Arts Teaching, Ed. 233 A, B.....	0	3	3
Metal Shop, M.E. 235, 236.....	3	3	0
Electric Shop, E.E. 110.....	0	0	3
Problems in Secondary Education, Ed. 332.....	0	0	3
†Electives.....	8	5	5
	20	20	20

Senior Year

Field Work in Secondary Education, Ed. 333.....	0	3	0
Vocational Guidance, Ed. 320.....	0	0	3
Methods in Industrial Arts Teaching, Ed. 322.....	4	0	0
Observation and Directed Teaching, Ed. 344.....	0	6	0
Occupational Studies, Ed. 324.....	0	0	3
Furniture Designs and Rod Making, M.E. 237, 238, 239.....	3	3	3
†Electives.....	11	6	9
	18	18	18

* Elective Shop Work should be taken in fields available as in Textiles, Woodshop, Machine Shop, and Foundry.

† With aid of advisors individuals will elect as follows: In junior year, one sequence in history and another in industrial problems. In the senior year, one sequence in history and another in sociology.

CURRICULUM FOR TEACHERS OF INDUSTRIAL EDUCATION

For Freshman and Sophomore years, refer to page 111.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Principles of Industrial Education, Ed. 327.....	0	3	0
*Shopwork (selected)	3	3	3
Vocational Guidance and Student Selection, Ed. 320.....	0	0	3
Trade and Job Analysis, Ed. 250.....	3	0	0
Course Making and Lesson Planning, Ed. 260.....	0	3	0
Related Subject Matter, Organizing Materials, Ed. 261.....	0	0	3
Industrial Psychology, Psychol. 238.....	0	0	3
Problems in Secondary Education, Ed. 332.....	0	0	3
Labor Problems, Econ. 340.....	3	0	0
General Sociology, Soc. 103.....	3	3	0
Visual Aids, Ed. 208.....	0	0	3
Mechanical Drawing, M.E. 111, 112, 113.....	2	2	2
(Special students who have not had M.E. 105, 106, 107, should substitute those courses for 111, 112, 113)			
†Electives	6	6	0
	<hr/> 20	<hr/> 20	<hr/> 20

Senior Year

Local Survey, Planning a Program, Ed. 216.....	3	0	0
Educational Psychology, Ed. 203.....	3	3	0
*Shopwork (selected)	0	3	0
Methods of Teaching Industrial Education, Ed. 325.....	3	0	0
Observation and Teaching, Ed. 344.....	0	3	3
Occupational Studies, Ed. 324.....	0	0	3
Shop Planning and Equipment, Ed. 226.....	0	0	3
Furniture Designs and Rod-Making, M.E. 237, 238, 239, or Machine Design, M.E. 311, 312, 313.....	3	3	3
†Electives	6	6	6
	<hr/> 18	<hr/> 18	<hr/> 18

* Elective Shopwork should be taken in fields available, as in Textiles, Woodshop, Machine Shop, Foundry, and Electricity.

† Elective courses must be approved by the faculty adviser.

THE SCHOOL OF ENGINEERING

FRANK P. GRAHAM, LL.D., *President*

JOHN W. HARRELSON, M.E., *Dean of Administration*

BLAKE R. VAN LEER, M.E., *Dean of Engineering*

WALLACE C. RIDDICK, C.E., LL.D., *Dean Emeritus of Engineering*

WILLIAM L. MAYER, M.S., *Director of Registration*

ORGANIZATION

The School of Engineering of the North Carolina State College of Agriculture and Engineering of the University of North Carolina is organized for purposes of administration into the following departments:

Line Departments

<i>Name of Department</i>	<i>Head or Responsible Administration Officer</i>
Architectural Engineering.....	PROFESSOR ROSS SHUMAKER
Ceramic Engineering.....	PROFESSOR A. F. GREAVES-WALKER
Chemical Engineering.....	PROFESSOR E. E. RANDOLPH
Civil Engineering.....	PROFESSOR C. L. MANN
Electrical Engineering.....	PROFESSOR WILLIAM HAND BROWNE
Geological Engineering.....	PROFESSOR J. L. STUCKEY
Industrial Engineering.....	PROFESSOR H. B. SHAW
Mechanical Engineering.....	PROFESSOR L. L. VAUGHAN

Service Departments

Engineering Experiment Station.....	PROFESSOR HARRY TUCKER
Engineering Mechanics.....	PROFESSOR G. WALLACE SMITH
Mathematics	PROFESSOR H. A. FISHER
Physics	PROFESSOR C. M. HECK

The School of Engineering is organized to offer technical and professional engineering instruction on the higher levels, both graduate and undergraduate, vocational and professional, to meet the needs of the people of North Carolina. It is also organized and equipped to conduct research in the basic fundamentals of Engineering, and it coöperates with the College Extension Division in offering extension courses in Engineering and its allied fields.

Effective July 1, 1938, the consolidation of Engineering instruction here at the University Unit in Raleigh will be consummated, and the instructional staff and laboratory facilities will be enhanced by additions from the Engineering college formerly maintained by the Unit at Chapel Hill. This gives the School of Engineering in Raleigh the largest and most extensive engineering staff and equipment in this section of the country, and offers to the young men of North Carolina excellent facilities for securing an undergraduate education in Engineering.

The excellence of the instruction in the School of Engineering is attested by the fact that the Engineers' Council for Professional Development has accredited its curricula in Ceramic, Civil, Electrical, and Mechanical Engineering. It is the policy of the School of Engineering to have all of its curricula meet the standards of this nationally recognized accrediting agency. Engineering education requires extensive laboratory facilities, and as rapidly as funds are available all of its laboratories are being brought into shape to meet the highest standards attained in any technological institution of higher learning.

Location and Facilities

Raleigh is a particularly favorable place for the study of Engineering. It is not only the State Capital where are located many state departments of interest to engineers, such as the State Highway Commission, State Board of Health, State Geologist, Department of Conservation and Development, and other important state institutions, but it is a rapidly growing city marked by modern developments in residential, commercial, and municipal construction. This local building and engineering goes on the year round and affords excellent opportunities for observation and study. Raleigh is also so situated geographically that it is within easy distance for inspection trips to commercial chemical works, woodworking mills, railway shops, machine shops, airports, and manufacturing industries.

Raleigh is also a center from which electric power is distributed to a large section of the State. A transformer and meter substation adjoins the campus, and from it high-tension lines radiate in four directions. Hydro-electric and steam-electric plants on the Cape Fear River are within easy reach. The important systems of highways centering in Raleigh are exceptionally valuable for the observation and study of the construction, use, and maintenance of roads.

On the State College campus are five large buildings devoted exclusively to engineering instruction and research. These buildings contain much laboratory equipment which can be inspected at any time, but is best seen during the Engineers' Fair, which is held each year in April.

THE PURPOSE OF THE SCHOOL

The purposes of the School of Engineering are: to educate men for professional service in Aeronautical, Architectural, Ceramic, Chemical, Civil, Construction, Electrical, Geological, Highway, Industrial, Mechanical, and Sanitary Engineering; to equip them to participate in commercial and public affairs; to develop their capacities for intelligent leadership; to aid in the development of our commerce and industry through research and experimentation, to investigate natural resources and demonstrate their value to the people of the State; to cooperate with private

companies, municipalities, public authorities and commercial and industrial organizations through scientific research, thus increasing technical skill, improving the value of manufactured products, and eliminating waste.

Those who graduate and receive a bachelor's degree in some specialized branch of engineering are equipped to assume at once the duties and responsibilities usually given Junior Engineers. The graduates of the School of Engineering are found in many technical fields, but most of them find employment in some one of the following: Aviation, Architecture and Structural Engineering, the Chemical Industries, Private Professional Practice, Consulting Engineers, Hydroelectric Engineering, Electrical Manufacturing, Contracting, Central Electric Station design and construction, Telephone Service, Maintenance and Operation of Electrically-driven Mill Equipment, Lighting, Illumination, and Railway Signaling; Construction, Maintenance, and Operation of Steam and Electrical Railways, the Design and Manufacture of Machinery, the Operation of Shops, and the Furniture Industry; Geological Engineering, Highway Engineering, Industrial Engineering, and the Management of Industries, Municipal Engineering, Sanitary Engineering, and, as City Managers, Public Utility and Health Service Officials; Sales Engineering, Research Engineering.

CURRICULA

The School of Engineering offers curricula which lead to the Bachelor's degree in the following specialized fields of Engineering:

Architectural Engineering

Ceramic Engineering

Chemical Engineering

Civil Engineering, with options in:

- (a) Construction
- (b) General Civil
- (c) Highway
- (d) Sanitary

Electrical Engineering, with options in:

- (a) Power Generation and Distribution
- (b) Electrical Communication
- (c) Illumination

Geological Engineering

Industrial Engineering

Mechanical Engineering, with options in:

- (a) Aeronautical Engineering
- (b) Power Plant Design and Construction
- (c) Heating, Ventilation and Refrigeration

All of the curricula contain courses of general educational value which prepare students for the duties of citizenship in a democracy. However the curricula are primarily technical and practical, and designed to prepare young men for professional practice and for definite vocations as well as for leadership in the industrial advancement of the State.

The instruction is such as will foster the individual talent, imagination, and initiative of students and instill in them ideals of accomplishment, service, and good citizenship, while assuring to them that scientific education and practical training which will prepare them for professional service and leadership in engineering and in industry. In this way the School of Engineering aids in the advancement of commerce and industry and furthers the development and economic utilization of the State's resources for the general welfare.

All the engineering curricula emphasize thoroughness in the study of English and of the sciences—Mathematics, Physics, and Chemistry—with a thorough drill in the application of fundamental principles to engineering and industrial problems. Engineering is taught as a profession, and the students come to realize that it is both honorable and learned, and that it offers exceptional opportunities for service.

The several engineering curricula have a common freshman year and differ only slightly in the sophomore year, in which the students study English, Mathematics, Drawing, Shop Work, Physics, and Chemistry. In the junior and senior years the students are directed definitely to the professional aims in carefully considered and well-balanced curricula.

REQUIREMENT OF SUMMER WORK

At least six weeks of summer employment, approved by the head of the department in which the student is enrolled, preferably in the summer following the junior year, is a specific requirement for graduation in Engineering.

The purpose of this is to have every student before graduation get the valuable experience of actual work with responsibility and pay in the field of his vocation. Departmental advisers will aid students in securing summer employment.

INSPECTION TRIPS

In order to familiarize himself with the practice of his profession, each senior in Engineering is required as a part of his curriculum to take the departmental inspection trips. None will be excused except for grave reasons.

These inspection trips are arranged by the head of the department in which the student takes his major work, and the cost of such trips vary from \$25.00 to \$60.00 per student, depending on the time and distance traveled.

ENGINEERING CURRICULA FOR A.B. OR B.S. GRADUATES OF OTHER COLLEGES

Selected courses leading to the degree "Bachelor of Science" in Engineering are offered to graduates of other recognized arts and science universities and colleges. These courses may be arranged to meet the vocational needs of the individual student, and in the light of credits accepted from the institution from which the student has been graduated. In some cases where the student presents enough credits which may be used for courses required in his engineering curriculum, he may be graduated with a B.S. degree from the School of Engineering in one year. In no case should it take more than two years to complete the work for his B.S. degree in Engineering.

EXTENSION, SHORT COURSES, INSTITUTES

The School of Engineering coöperates with the College Extension Division in offering short courses and institutes for Adults and Graduate Engineers. These courses vary in length from one day to one week, and each year the courses covered are different and vary according to the public demand. The faculty of the School of Engineering usually furnishes a large portion of the instruction offered in these courses, which in the past have covered such fields as courses for Electrical Metermen, Gas Plant Operators, Waterworks Operators, Heating and Plumbing Contractors, Surveyors, Engineers, etc. These short courses are usually held at Raleigh because the School of Engineering has unusual laboratory and classroom facilities which offer a decided advantage to those who desire to "brush up on" their specialty and bring themselves abreast of the times by attending such short courses. For information concerning any short course in which a reader may be interested, he is requested to address his inquiry to Mr. Edward Ruggles, Director, Extension Division, State College, Raleigh, N. C.

DEGREES

Upon the satisfactory completion of one of the curricula in engineering the degree of Bachelor of Science in Engineering is conferred.

The degree of Master of Science in Engineering is offered for the satisfactory completion of one year of graduate study in residence. Candidates for the degree of Master of Science in Engineering enter and are enrolled as graduate students.

The professional degree of Architectural Engineer, Ceramic Engineer, Chemical Engineer, Civil Engineer, Electrical Engineer, or Mechanical Engineer, may be conferred upon graduates after three years professional practice in responsible charge of important work, and upon the acceptance of a thesis on a subject related to the practice in which the applicant has been engaged.

ADMISSION

Each applicant for admission must present evidence that he has satisfactorily completed a four-year course of not less than fifteen units in a secondary school which is approved by the State Department of Education.

Each applicant for admission must be at least sixteen years old and must submit fifteen units of credits from an accredited high school. Of these units 8.5 are in specified subjects and 6.5 in elective subjects.

ADVANCED STANDING

Students who have attended colleges of approved standing will be given appropriate credit for work completed there, upon the presentation of the proper certificate to W. L. Mayer, Director of Registration, State College, Raleigh, N. C.

REQUIREMENTS FOR GRADUATION

The requirements for graduation in Engineering are the satisfactory completion of all the courses in one of the prescribed curricula (see tabulations of curricula on the pages following), a total of not less than 240 term credits, with not less than 240 points calculated under the point system.

Of the minimum of 240 term credits required for graduation in Engineering, 117 are common to all curricula, that is, 30 term credits in Mathematics, 18 in Language, 9 in Economics, 12 in Chemistry, 12 in Physics, 9 in Mechanics, 9 in Drawing and Descriptive Geometry, 12 in Military Training (or Social Science and Humanities alternatives), and 6 in Physical Education.

Each of the curricula permits election of at least 18 term credits and contains not more than 72 special technical term credits.

Each of these curricula is not only well balanced, but offers a liberal course of study in a technical and professional field. They conform to what is regarded by Engineering educators as the best modern practice.

FRESHMAN YEAR OF ALL CURRICULA IN ENGINEERING

COURSES	CREDITS		
	First Term	Second Term	Third Term
Algebra, Trigonometry, Analytical Geometry.			
Math. 101, 102, 103	6	6	6
Composition, Eng. 101	3	3	3
General Inorganic Chemistry, Chem. 101, 103, 105	4	4	4
Engineering Drawing II, M.E. 105, 106	3	3	0
Descriptive Geometry, M.E. 107	0	0	3
Military Science I, Mil. 101, or			
World History, Hist. 104	2	2	2
Fundamental Activities and Hygiene, P.E. 101	1	1	1
	19	19	19

Summer requirement following the freshman year in Architectural, Ceramic, and Electrical Engineering:

Surveying—C.E. 5102, 3 credits.

ARCHITECTURAL ENGINEERING

This curriculum is arranged to lay a broad foundation for subsequent professional life. A professional man should have a liberal education as well as fundamental technical knowledge. This curriculum offers arts and sciences in their relation to architecture. It embodies the idea that building construction is an art as well as a useful accomplishment.

Architecture is generally recognized as the first and greatest of the Fine Arts, and hence a wide sympathy with every form of culture is regarded as essential. The practice of the profession presents many aspects of an exacting and thoroughly scientific nature, and the training of the architect must combine those things which are useful with those that are purely ornamental. The aim is to train men for the practice of their profession, and the curriculum is designed so that a balance may be maintained between the practical and the aesthetic.

Facility in the technique of drawing is emphasized, and carefulness and exactitude are demanded in the treatment of the various fundamental problems of construction.

CURRICULUM IN ARCHITECTURAL ENGINEERING

Freshman Year

For the freshman year, refer to page 118.

Surveying, C.E. 5102, 3 credits, is required in the summer immediately following the freshman year.

Sophomore Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Differential Calculus, Integral Calculus I and II, Math. 201, 202, 203.....	4	4	4
*Business English, Public Speaking and English or American Literature, Eng. 120, 160, 220 or 221 or 337.....	3	3	3
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
Engineering Mechanics, E.M. 211, 212.....	0	3	3
Introduction to Architecture, Arch. 100.....	3	0	0
Elements of Architecture, Arch. 101.....	0	3	3
Shades and Shadows, Arch. 102.....	2	0	0
Elementary Rendering, Arch. 103.....	1	0	0
†Military Science II, Mil. 102.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	<u>20</u>	<u>20</u>	<u>20</u>

Junior Year

Engineering Mechanics, E.M. 213.....	3	0	0
Strength of Materials, E.M. 221, 222.....	0	3	3
Materials Testing Laboratory, H.E. 204.....	0	1	0
Materials of Construction, C.E. 201.....	3	0	0
Sanitary and Mechanical Equipment of Buildings, C.E. 202.....	0	3	0
Woodworking, M.E. 127.....	3	0	0
Business Law, Econ. 211.....	0	0	3
Freehand Drawing I, II, and III, Pen and Pencil, Water Color, Charcoal, Arch. 104, 105, 106.....	2	2	2
Architectural Details, Arch. 111.....	0	0	2
Practical Photography, Arch. 112.....	0	0	1
Perspective Drawing, Arch. 201.....	0	2	0
Architectural Design I, Arch. 202.....	3	3	3
History of Architecture, Arch. 205.....	3	3	0
History or Ornament, Arch. 206.....	0	3	0
Electives.....	3	3	3
	<u>20</u>	<u>20</u>	<u>20</u>

Summer requirement: six weeks industrial employment.

Senior Year

Reinforced Concrete, C.E. 204.....	3	3	0
Graphic Statics, C.E. 209.....	1	0	0
Theory of Structures, C.E. 313a.....	3	3	0
Specifications, C.E. 309.....	0	0	3
Electrical Equipment of Buildings, E.E. 105.....	0	0	3
General Economics, Econ. 103.....	3	3	3
Advanced Rendering, Arch. 203.....	1	1	1
Architectural Design II, Arch. 204.....	3	3	3
Domestic Architecture, Arch. 209.....	0	2	0
Architectural Office Practice, Arch. 210.....	2	2	2
Architectural Composition, Arch. 211.....	2	0	0
Architectural Estimates, Arch. 212.....	0	0	2
Electives.....	3	3	3
	<u>21</u>	<u>20</u>	<u>20</u>

All seniors will be required to go on the inspection trip as part of their curriculum.

* Students who have been certified by the Department of English as proficient in English may substitute for the course listed French, M.L. 101. Those who substitute M.L. 101 for the sophomore English will have to elect M.L. 201 in the junior or senior year to complete the requirement of two years of a Modern Language.

† Or 6 credits in one or two of the following departments: Economics, Psychology, History, Modern Language, Sociology.

CERAMIC ENGINEERING

Ceramic Engineering includes the different phases of engineering which have to do with the study of all the materials and the manufacture of products of the non-metallic industries. The non-metallic minerals compose over 90 per cent of the earth's surface, and the industries based on them rank above the automobile and iron and steel industries in value of product. Principal among these products are those made of clay and associated minerals, such as building brick, hollow tile, sewer pipe, refractories, wall and floor tile, tableware, pottery, electrical porcelain, chemical and sanitary stoneware, flat glass, chemical and table glassware, enameled iron and steel, Portland and hydraulic cements, and limes.

North Carolina has enormous deposits of shale, clay, kaolin, feldspar, sand, limestone and other ceramic minerals, equal in quality to any in the United States, and with the introduction of modern processes and methods will produce in the future quantities of ceramic products and adequately develop its ceramic industries.

The demand for ceramic engineers has far exceeded the supply for a number of years past, there being less than 100 Ceramic engineers graduated in the United States each year, and it is with the idea of supplying this demand and developing the latent resources of North Carolina that a four-year curriculum in Ceramic Engineering, leading to the degree of Bachelor of Science in Engineering, is offered.

The instruction in Ceramic Engineering is enriched by the intensive investigation of ceramic resources and manufactures constantly under way in connection with the Engineering Experiment Station. Students will have the great advantage of these investigations along with their other instruction.

Courses in advanced subjects for graduate students are offered in Advanced Refractories and Furnaces, Industrial Adaptability of Clays, Designing of Ceramic Equipment and Plants, Glazes and Colors, Glass Technology, and Ceramic Research.

The curriculum in Ceramic Engineering, which has been accredited by the Engineering Council for Professional Development, contains fundamental courses and courses in Ceramic, Geological, Civil, Electrical, and Mechanical Engineering, as well as Economics, to provide for the general training in engineering with the particular study of Ceramic Engineering. The Ceramic Engineering courses consist of the theoretical and practical study of the mining, manufacturing, and testing of ceramic materials and products as well as the design of ceramic equipment and plants.

Graduates in Ceramic Engineering are employed in the ceramic industries as plant executives, research engineers, plant control engineers, sales engineers, product control engineers, plant designers and constructors, equipment manufacturers, consulting engineers, ceramic chemists, and technologists. Graduates of the department at State College, which now ranks fourth in registration in the United States, are successfully holding positions in all of these branches.

CURRICULUM IN CERAMIC ENGINEERING

Freshman Year

For the freshman year, refer to page 118.

Surveying, C.E. 102, 3 credits, is required in the summer immediately following the freshman year.

Sophomore Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Differential Calculus, Integral Calculus, I and II, Math. 201, 202, 203.....	4	4	4
Qualitative Analysis, Chem. 211.....	4	0	0
Quantitative Analysis, Chem. 212.....	0	4	0
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
Engineering Geology, Geol. 201.....	3	0	0
Mineralogy, Geol. 230.....	0	0	3
*Business English, Public Speaking, and English Literature, Eng. 120, 160, 220.....	3	3	3
Ceramic Materials, Cer.E. 103.....	0	3	0
Ceramic and Mining Processes, Cer.E. 104.....	0	0	3
†Military Science II, Mil. 102.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	21	21	20

Junior Year

Engineering Mechanics, E.M. 201, 202.....	3	3	0
Strength of Materials, E.M. 221.....	0	0	3
General Economics, Econ. 103.....	3	3	3
Mechanical Drawing, M.E. 111, 112.....	0	2	2
Drying Fundamentals and Practice, Cer.E. 208.....	3	0	0
Firing Fundamentals and Practice, Cer.E. 213.....	0	3	0
Ceramic Calculations, Cer.E. 209.....	0	0	3
Ceramic Products, Cer.E. 212.....	0	0	3
Heat Engineering III, M.E. 201, 202.....	3	3	0
Mechanical Engineering Laboratory I, M.E. 211, 212.....	1	1	0
Materials Testing Laboratory, H.E. 204.....	0	0	1
Thermal Mineralogy, Geol. 238.....	0	3	0
Physical Chemistry, Chem. 231.....	5	0	0
Business Law, Econ. 211.....	0	0	3
Electives.....	3	3	3
	21	21	21

Summer requirements: six weeks industrial employment.

Senior Year

Refractories, Cer.E. 301.....	0	0	3
Metal Enamels, Cer.E. 210.....	0	3	0
Silicate Bodies and Glasses, Cer.E. 207.....	3	0	0
Ceramic Laboratory, Cer.E. 300.....	3	3	3
Ceramic Designing, Cer.E. 303.....	0	4	4
Pyrometry, Cer.E. 214.....	1	0	0
Technical Writing I, Eng. 324.....	3	0	0
Elements of Electrical Engineering I, E.E. 220.....	0	3	3
Strength of Materials, E.M. 222.....	3	0	0
Optical Mineralogy, Geol. 301.....	3	3	3
Electives.....	3	3	3
	19	19	19

All seniors will be required to go on the inspection trip as part of their curriculum.

* Students who have been certified by the Department of English as proficient in English may substitute for the courses listed Elementary German, M.L. 102. Such students are expected to take two years of German.

† Or 6 credits in one or two of the following departments: Economics, Psychology, History, Modern Language, Sociology.

CHEMICAL ENGINEERING

This curriculum provides thorough training in unit operations and unit processes and in the methods of manufacturing industrial chemical products on a large scale. It includes basic courses in Chemistry, Physics, Mathematics, and fundamental engineering as a background for the professional Chemical Engineering training of this department, so that the graduate is prepared to enter any field of applied chemical work as a junior engineer.

The Chemical Engineer is expected to determine the process, the material, the design, and the economic capacity of the equipment needed. Efficient production requires exact control in every stage of the process. He must devise efficient and economical methods, discover sources of loss and the remedy, recover by-products, convert waste products and make industrial calculations of input, output, efficiency, quality, and cost.

North Carolina is a center of chemical industries in the South, with an annual output estimated at approximately one-fourth billion dollars annually. Some of the largest chemical industries of the country are located in this State, manufacturing such products as paper, fertilizer, vegetable oils, food products, leather, rubber goods, aluminum, metallurgical products, paints and varnishes. Such industries require properly trained Chemical Engineers. Chemical Engineering offers therefore inviting opportunities in this profession which renders a distinct service to the welfare and comfort of the people.

Graduates find employment in such fields as control work, industrial research, technologists, superintendents of chemical industries, municipal engineers, engineers in the State and Federal health service, consulting chemical engineers, manufacturers of chemicals and of chemical equipment, chemical salesmen and representatives, developers of new chemical industries.

Ninety-three per cent of the graduates of this department are successfully engaged in Chemical Engineering work. Because chemical problems are intricate and scientific chemical control work in industries is required, salaries for Chemical Engineering graduates are inviting. Many graduates of this department now hold very responsible positions. It has not been possible to supply the demand for graduates of this department.

This department coöperates with the State departments in their chemical problems.

Facilities are available for graduate work, and emphasis is placed on this type of work.

CURRICULUM IN CHEMICAL ENGINEERING

Freshman Year

For the freshman year, refer to page 118.

Sophomore Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Differential Calculus, Integral Calculus I and II, Math. 201, 202, 203.....	4	4	4
*Business English, Public Speaking, and English or American Literature, Eng. 120, 160, 220 or 221 or 337....	3	3	3
Introduction to Chemical Engineering, Chem.E. 101.....	1	1	1
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
Qualitative Analysis, Chem. 211.....	4	0	0
Quantitative Analysis, Chem. 212, 213.....	0	4	4
Shopwork, M.E. 121, 122, 123.....	1	1	1
†Military Science II, Mil. 102.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	20	20	20

Junior Year

Engineering Mechanics, E.M. 201, 202.....	3	3	0
Strength of Materials, E.M. 220.....	0	0	3
Organic Chemistry, Chem. 321.....	4	4	4
Chemical Engineering I, Technology, Chem.E. 201.....	3	3	3
Industrial Stoichiometry, Chem.E. 210.....	0	0	3
Chemical Engineering Laboratory I, Chem.E. 202.....	1	1	1
Physical Chemistry, Chem. 331.....	4	4	0
Fluid Mechanics, E.M. 230.....	0	0	3
Elements of Electrical Engineering I, E.E. 220.....	3	3	0
Machine Shop I, M.E. 225, 226.....	1	1	0
Electives	3	3	3
	22	22	20

Summer requirement: six weeks industrial employment.

Senior Year

Principles of Chemical Engineering, Chem.E. 300.....	3	3	3
Water Treatment, Chem.E. 315.....	3	0	0
Chemistry of Engineering Materials, Chem.E. 317.....	0	3	0
Electrochemical Engineering, Chem.E. 301.....	0	0	3
Chemical Engineering Lab. and Design II, Chem.E. 307.....	2	2	2
Heat Engineering III, M.E. 201, 202.....	3	3	0
Mineralogy, Geol. 230.....	0	0	3
General Economics, Econ. 103.....	3	3	3
Elementary Modern Physics, Phys. 206.....	3	0	0
†Technical Writing I, Eng. 324.....	0	3	0
Electives	3	3	3
†Business Law, Econ. 211.....	0	0	3
	20	20	20

All seniors will be required to go on the inspection trip as part of their curriculum.

* Students who have been certified by the Department of English as proficient in English may substitute for the courses listed German, M.L. 102. Such students are expected to take two years of German.

† Or 6 credits in one or two of the following departments: Economics, Psychology, History, Modern Language, Sociology.

‡ With the approval of the advisor, courses in Education, English, History, German, Advanced Mathematics, Botany, and Library Methods may be substituted for Technical Writing, and Business Law.

CIVIL ENGINEERING

Civil Engineering is the oldest and most universal of all the branches of modern engineering; in fact, from it all of the others have developed. The usefulness of Civil Engineering is so well recognized that a student who does not have a strong predilection for some other special branch of engineering may be safely advised to study Civil Engineering.

The Civil Engineering curriculum in the School of Engineering has been accredited by the Engineers' Council for Professional Development and is a well-balanced course of study, upon the completion of which a young man is equipped to assume the duties of junior engineer in any of the following important fields: Design, construction, operation or testing of water-power developments, railroads, highways, water supplies, sewerage systems.

The Civil Engineering department offers a student the choice of the following four options:

- (a) General Civil
- (b. Highway
- (c) Construction
- (d) Sanitary

The first two years of all of these curricula are the same. They begin to differentiate slightly in the junior year and more so in the senior year, but essentially they are the same and are designed to develop in the student engineer a well-trained mind, one which reasons logically, accurately, and quickly. This is accomplished by a thorough training in applied mathematics and physics, which is supplemented with practical work in the field, drafting rooms and laboratories.

More men are practicing Civil Engineering in North Carolina today than all the other branches of engineering put together, and it is to train young men to assist these men and to subsequently follow in their footsteps that the Civil Engineering curricula are offered.

The reasons for the various options in Civil Engineering are stated under the head of each.

CONSTRUCTION ENGINEERING

This option is offered in order to educate men for the profession of Engineering as it is related to construction.

North Carolina's progress indicates great increase in building and general construction. Construction needs more and better trained men to meet the immediate demands as well as to anticipate the greatly increased demands of the future. Builders, as few others, need to know at all times exactly where they stand on the projects they undertake. The contractor, to be successful, must conduct his business systematically and economically. Therefore he must learn not only general engineering technique, but also something of Architecture and business methods and practices; he must delve further into construction and learn the principles involved, the methods, practices, and successful policies in use.

Combined into this curriculum are the fundamental courses in the Civil Engineering curriculum, a few courses in Architecture, a few additional courses dealing with business, and special courses in Construction Engineering in the junior and senior years.

The theory in the Construction Engineering courses is supplemented by frequent inspection trips to projects under construction, and particular emphasis is placed upon estimating, modern methods, and management of operations.

This curriculum is designed to prepare the student to enter the work of actual construction of modern structures and to lay a foundation for future work as owners, managers, or executives in the construction industry.

HIGHWAY ENGINEERING

North Carolina has, during the past twenty years, made remarkable progress in the building of good roads. Most of the counties and cities in the State have also spent large sums in road construction and maintenance.

The building of roads and their proper maintenance are engineering problems to be handled by technically trained men. Since Highway Engineering is, fundamentally, a special division of the broad field of Civil Engineering, the curriculum for the first three years is identical with the regular Civil Engineering curriculum. In the fourth year, however, the student who specializes in Highway Engineering is given more specific instruction in those subjects pertaining to Highway Engineering.

State College offers unusual opportunities to young men to study Highway Engineering. Not only are the necessary facilities available for theoretical instruction, but there are in and near Raleigh many opportunities for studying the practical application of the principles of highway construction. Raleigh and Wake County have built most of the different types of road surfaces; the laboratories of the State Highway Commission are available for inspection, and numerous experimental sections of road constructed by the Commission near Raleigh can be examined.

SANITARY ENGINEERING

Because Sanitary Engineering so vitally concerns the health of the people, and because of the progress in North Carolina in this field, the demand for men trained in Sanitary Engineering has increased.

The Sanitary Engineering option is offered to meet this need. In the main it is the curriculum in General Civil Engineering with selected courses in Bacteriology, Chemical Engineering, and Sanitary Engineering.

As there is a large demand in this State for men familiar with the design and operation of water and sewage plants, special attention is given to the actual design and practical operation of water purification and sewage disposal plants.

The Sanitary Engineering Laboratory equipment is similar to that used in water and sewage plant laboratories, and the student makes the same tests, using standard methods as are made in water and sewage plant laboratories.

The City of Raleigh water purification plant and the College gymnasium swimming pool filter plant are available for practical demonstration and instruction. Through the coöperation of the Bureau of Sanitary Engineering, State Board of Health, located in Raleigh, the student has an opportunity to study all phases of its work not only in Sanitary Engineering, but also in the broad field of public health.

Upon graduation, students are prepared to accept positions as water and sewage plant operators, assistant resident engineers with private consulting engineers, junior engineers with state boards of health, and with the United States Public Health Service. After a few years of experience graduates may be expected to advance to positions as superintendents of waterworks, city engineers and city managers, consulting engineers, state sanitary engineers, and senior engineers with the United States Public Health Service.

CURRICULUM IN CIVIL ENGINEERING

General Civil Engineering

Construction Engineering

Highway Engineering

Sanitary Engineering

Freshman Year

For the freshman year, refer to page 118.

Sophomore Year

Required

COURSES	CREDITS		
	First Term	Second Term	Third Term
Differential Calculus, Integral Calculus, I and II, Math. 201, 202, 203.....	4	4	4
*Business English, Public Speaking, and English or American Literature, Eng. 120, 160, 220 or 221 or 337....	3	3	3
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
Engineering Geology, Geol. 201.....	3	0	0
Theoretical Surveying, C.E. 206.....	3	3	3
Field Surveying, C.E. 207.....	1	0	1
Mapping, C.E. 208.....	0	1	0
Engineering Mechanics, E.M. 211, 212.....	0	3	3
†Military Science II, Mil. 102.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	21	21	21

Surveying, C.E. s240, concurrent with Summer School, 3 credits.

Junior Year

Required

Elements of Electrical Engineering I, E.E. 220.....	3	3	0
Engineering Mechanics, E.M. 213.....	3	0	0
Strength of Materials, E.M. 221, 222.....	0	3	3
Materials of Construction, C.E. 201.....	3	0	0
	9	6	3

Choice must be made of one of the following options:

GENERAL CIVIL OPTION

Fluid Mechanics, E.M. 230.....	0	3	0
Hydraulics, C.E. 250.....	0	0	3
General Economics, Econ. 103.....	3	3	3
Highway Engineering, H.E. 201.....	0	3	3
Heat Engineering II, M.E. 139.....	0	0	3
Technical Writing I, Eng. 324.....	3	0	0
Electives	3	6	3
	18	21	18

HIGHWAY OPTION

Fluid Mechanics, E.M. 230.....	0	3	0
Hydraulics, C.E. 250.....	0	0	3
General Economics, Econ. 103.....	3	3	3
Highway Engineering, H.E. 201.....	0	3	3
Heat Engineering II, M.E. 139.....	0	0	3
Electives	6	6	3
	18	21	18

CONSTRUCTION OPTION

Fluid Mechanics, E.M. 230.....	0	0	3
General Economics, Econ. 103.....	3	3	3
Highway Engineering, H.E. 201.....	0	3	3
Sanitary and Mechanical Equipment of Buildings, C.E. 202.....	0	3	0
Materials Testing Laboratory, H.E. 204.....	2	0	0
Construction Engineering I, C.E. 211.....	3	3	3
Electrical Equipment of Buildings, E.E. 105.....	0	0	3
Electives	3	3	3
	20	21	21

SANITARY OPTION

Fluid Mechanics, E.M. 230.....	0	3	0
Hydraulics, C.E. 250.....	0	0	3
Highway Engineering, H.E. 201.....	0	3	3
General Bacteriology, Bot. 203.....	0	4	0
Aquatic Biology, Bot. 210.....	0	0	2
Sanitary Engineering, C.E. 215.....	0	0	3
Treatment of Water and Sewage, Chem.E. 208.....	3	0	0
Technical Writing I, Eng. 324.....	0	0	3
Business Law, Econ. 211.....	3	0	0
Electives	3	3	3
	18	19	20

Senior Year

Required

COURSES	CREDITS		
	First Term	Second Term	Third Term
Reinforced Concrete, C.E. 204.....	3	3	0
Soil Mechanics, C.E. 315.....	3	0	0
Theory of Structures, C.E. 313.....	3	3	0
Structural Design, C.E. 314.....	0	3	3
Graphic Statics, C.E. 209.....	1	0	0
	10	9	3

Choice must be made of one of the following options:

GENERAL CIVIL OPTION

Railroad Economics, C.E. 306.....	0	3	0
Transportation, H.E. 302.....	0	0	3
Applied Astronomy, C.E. 301.....	0	0	4
Materials Testing Laboratory, H.E. 204.....	0	1	1
Water Works, C.E. 305.....	0	3	0
Sanitary Engineering Laboratory, C.E. 307.....	1	1	0
Sewerage, C.E. 308.....	3	0	0
Business Law, Econ. 211.....	0	0	3
Electives	6	3	6
	20	20	20

HIGHWAY OPTION

Transportation, H.E. 302.....	0	0	3
Applied Astronomy, C.E. 301.....	0	0	4
Materials Testing Laboratory, H.E. 204.....	0	1	1
Highway Engineering II, H.E. 301.....	3	3	0
Highway Office Practice and Design, H.E. 303.....	1	1	0
Modern Language	3	3	3
Business Law, Econ. 211.....	0	0	3
Electives	3	3	3
	20	20	20

CONSTRUCTION OPTION

Construction Engineering II, C.E. 302.....	3	3	3
Construction Equipment, C.E. 303.....	0	3	0
Accident Prevention in Construction, C.E. 312.....	0	0	3
Specifications, C.E. 309.....	0	0	3
Economics or Social Sciences.....	3	3	3
Architectural Drawing, Arch 216.....	0	0	3
Electives	3	3	3
	19	21	21

SANITARY OPTION

Materials Testing Laboratory, H.E. 204.....	0	1	1
Sanitary Engineering Laboratory, C.E. 307.....	1	1	0
Waterworks, C.E. 305.....	0	3	0
Water Purification, C.E. 310.....	0	0	3
Sewerage, C.E. 308.....	3	0	0
Sewage Disposal, C.E. 311.....	0	3	0
General Economics, Econ. 103.....	3	3	3
Financing of Sanitary Utilities, C.E. 304.....	0	0	3
Electives	3	3	6
	20	23	19

Each senior is required to make the official engineering inspection trip.

ELECTRICAL ENGINEERING

The training of young men for active work in a field as wide and diversified as the Electrical Industry demands, above all else, a thorough preparation in the sciences underlying all branches of engineering, a broad foundation in fundamental electrical theory, and a clear understanding of the characteristics of electrical machinery and systems. These factors are essential for success, whether it be in the design and manufacture of electrical equipment, in power production and utilization, or the fields of communication and signaling, as in all these branches of the industry technical advances are being made with increasing rapidity. With this object in view the curriculum in Electrical Engineering includes comprehensive training in mathematics, physics and chemistry, the fundamental sciences, and adequate training in allied branches of engineering. All courses are accompanied by coördinated work in the laboratory and intensive drill in the applications of theory by means of carefully planned problems. In the senior year the student is offered two options, one looking toward employment in the fields of design, transmission or communication, and the other in the field of industrial applications.

The curriculum includes a thorough drill in the preparation of technical reports, courses in economics, and opportunity is offered during the junior and senior years for further study of industrial organizations and management.

Each student is also required to spend at least six weeks in satisfactory industrial employment before receiving his degree, and during the senior year to make an inspection trip to a number of modern electric installations, and submit a report upon these.

Close coördination in the work of the American Institute of Electrical Engineers is secured through a student branch at the College, which meets twice a month, through the State section of the Institute, which meets several times during the year, and through the regional meetings of the Institute, one section of which is organized as a student activities conference.

CURRICULUM IN ELECTRICAL ENGINEERING

Freshman Year

For the freshman year, refer to page 118.

Surveying, C.E. 8102, 3 credits, is required in the summer immediately following the freshman year.

Sophomore Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Differential Calculus, Integral Calculus I and II,			
Math. 201, 202, 203.....	4	4	4
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
*Business English, Public Speaking and English or			
American Literature, Eng. 120, 160, 220 or 221 or 337....	3	3	3
General Economics, Econ. 103.....	3	3	3
Metal Work, M.E. 128.....	0	0	3
†Electrical Engineering Fundamentals, E.E. 101.....	3	3	0
‡Military Science II, Mil. 102.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	20	20	20

Junior Year

Engineering Mechanics, E.M. 211, 212, 213.....	3	3	3
Elementary Mechanism, M.E. 115, 116, 117.....	1	1	1
Engineering Thermodynamics, M.E. 207, 208, 209.....	3	3	3
Mechanical Engineering Laboratory II, M.E. 213, 214, 215	1	1	1
Technical Writing, Eng. 324.....	0	3	0
Differential Equations, Math. 301.....	3	0	0
Elementary Modern Physics, Phys. 206.....	0	0	3
Electrical Engineering, E.E. 201.....	3	3	3
Electrical Engineering Problems, E.E. 202.....	1	1	1
Electrical Engineering Laboratory, E.E. 203.....	2	2	2
Electives	3	3	3
	20	20	20

Summer requirement: six weeks industrial employment.

Senior Year

Business Law, Econ. 211.....	0	0	3
Accounting for Engineers, Econ. 112.....	0	3	0
Engineering Economics, I.E. 213.....	3	0	0
Strength of Materials, E.M. 220.....	3	0	0
Electrical Industry, I.E. 222.....	0	3	0
Fluid Mechanics, E.M. 231, 232.....	0	3	3
Illumination, E.E. 307.....	3	0	0
Electric Transmission, E.E. 304.....	0	0	4
Electric Distribution, E.E. 301.....	0	0	3
Alternating Current Machinery, E.E. 302.....	4	4	0
Electrical Engineering Laboratory, E.E. 303.....	2	2	2
First Option			
Electric Communication, E.E. 306.....	3	3	3
Second Option			
Electric Power Applications, E.E. 305.....	3	3	3
Electives	3	3	3
	21	21	21

All seniors will be required to go on the inspection trip as part of their curriculum.

* Students who have been certified by the Department of English as proficient in English may substitute for the courses listed French, M.L. 101. Such students are expected to take two years of French.

† Sophomore class is divided into two sections, one half taking Fundamentals and Metal Shop as scheduled, the other half taking the Metal Shop during Fall Term and the Electrical Engineering Fundamentals the second and third terms.

‡ Or 6 credits in one or two of the following departments: Economics, Psychology, History, Modern Language, Sociology.

GEOLOGICAL ENGINEERING

This curriculum is designed to give young men the training in geology and engineering that will fit them to assume the position of junior engineer in the fields of geology and mineral deposits.

The mineral resources of the State, both metallic and non-metallic, are important possibilities for the future development of the natural resources of North Carolina. In the western part of the State there exist valuable deposits of copper, nickel, iron, mica, feldspar, kaolin, cyanite, barite, granite, limestone, and other minerals; in the central part, coal deposits of promising quantity and quality and large areas of pyrophyllite, granite, and other valuable building stones; and in the eastern part, phosphate and marls.

The curriculum in Geological Engineering is designed to meet the geological and mining conditions in North Carolina and the South. There is also a demand for men well trained in geological engineering in the State and Federal geological surveys, oil and mining companies, industrial companies, the leading railways, hydro-power companies, and as teachers of geology. Students will also have the additional advantage of coming in close contact with the research which is being done on the geology of the State and which of necessity will be greatly enlarged within the next few years.

CURRICULUM IN GEOLOGICAL ENGINEERING

Freshman Year

For the freshman year, refer to page 118.

Sophomore Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Differential Calculus, Integral Calculus I and II, Math. 201, 202, 203.....	4	4	4
*Business English, Public Speaking, and English or American Literature, Eng. 120, 160, 220 or 221 or 337....	3	8	3
Qualitative Analysis, Chem. 211.....	4	0	0
Quantitative Analysis, Chem. 212, 213.....	0	4	4
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
Engineering Geology, Geol. 201.....	3	0	0
Historical Geology, Geol. 125.....	0	3	0
Mineralogy, Geol. 230.....	0	0	3
†Military Science II, Mil. 102.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	21	21	21

Junior Year

Engineering Mechanics, E.M. 201, 202.....	0	3	3
Theoretical Surveying, C.E. 206.....	3	3	0
Field Surveying, C.E. 207.....	1	0	0
Mapping, C.E. 205.....	0	1	0
Heat Engineering II, M.E. 139.....	0	0	3
Physical Chemistry, Chem. 231.....	5	0	0
General Economics, Econ. 103.....	3	3	3
Geology and Mineral Resources of North Carolina, Geol. 230	3	0	0
Petrology, Geol. 303.....	3	0	0
Advanced Mineralogy, Geol. 235.....	0	3	0
Structural Geology, Geol. 250.....	0	3	0
Physiography, Geol. 205.....	0	0	3
Ceramic and Mining Processes, Cer.E. 104.....	0	0	3
Electives	3	3	3
	21	19	18

Senior Year

Elements of Electrical Engineering I, E.E. 220.....	3	3	0
Fluid Mechanics, E.M. 230.....	0	0	3
Social Science Options.....	3	3	0
Business Law, Econ. 211.....	0	0	3
Technical Writing I, Eng. 324.....	3	0	0
Optical Mineralogy, Geol. 301.....	3	3	3
Mining Engineering, Geol. 310.....	3	3	3
Advanced Engineering Geology, Geol. 320.....	3	0	0
Stratigraphy and Index Fossils, Geol. 321.....	0	3	0
Field Methods, Geol. 322.....	0	0	3
Economic Geology, Geol. 305, 306.....	0	3	3
Electives	3	3	3
	21	21	21

All seniors will be required to go on the inspection trip as part of their curriculum.

* Students who have been certified by the Department of English as proficient in English may substitute for the courses listed French, M.L. 101. These students are expected to take two years of French.

† Or 6 credits in one or two of the following departments: Economics, Psychology, History, Modern Language, Sociology.

‡ These options may be selected from courses in Economics, Education, History, Psychology or Sociology.

INDUSTRIAL ENGINEERING

For a number of years there has been increasing application of engineering methods and approach to the solution of the problems of industries, with marked success; thus has developed the technic known as Industrial Engineering, instruction in which is offered in many engineering schools, in order more definitely to prepare young men for this field of activity.

There is an imperative demand in industries for men of trained intelligence and high character not only well grounded in engineering, but also informed about and directed to industries, where they may serve well because of their combined knowledge of engineering, economics, and industrial relations.

The aim of the curriculum in Industrial Engineering is to prepare students to enter the employ of industries as engineering graduates and, through experience, develop into positions of responsibility and service; and thus to meet the demands of small as well as large industries for men educated as engineers with special preparation for the activities of industries.

Consequently the curriculum provides thorough education in the subjects fundamental to engineering, basic engineering courses, courses in Psychology, Economics and Accounting, and, besides, special Industrial Engineering courses which apply engineering methods and principles to the study of industries; so that students may learn to make engineering, economic and social analyses concurrently, and to apply them to the conduct of enterprises.

Electives, to be selected from engineering and other College courses, with the definite approval of the adviser, offer opportunity for the development of individual aptitudes.

CURRICULUM IN INDUSTRIAL ENGINEERING

Freshman Year

For the freshman year, refer to page 118.

Sophomore Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Differential and Integral Calculus I and II, Math. 201, 202, 203.....	4	4	4
*Business English, Public Speaking, and English or American Literature, Eng. 120, 160, 220 or 221 or 337....	3	3	3
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
General Economics, Econ. 103.....	3	3	3
Shopwork, M.E. 124, 125, 126.....	2	2	2
Industrial Organization, I.E. 101.....	3	3	3
†Military Science II, Mil. 102.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	<u>22</u>	<u>22</u>	<u>22</u>

Junior Year

Engineering Mechanics, E.M. 201, 202.....	3	3	0
Strength of Materials, E.M. 220.....	0	0	3
Engineering Thermodynamics, M.E. 207, 208, 209.....	3	3	3
Mechanical Engineering Laboratory II, M.E. 213, 214, 215	1	1	1
Machine Shop III, M.E. 231, 232, 233.....	2	2	2
Accounting I, Econ. 201.....	3	3	3
Management Engineering, I.E. 220.....	3	3	3
Electives	6	6	6
	<u>21</u>	<u>21</u>	<u>21</u>

Summer requirement: six weeks industrial employment.

Senior Year

Technical Writing I, Eng. 324.....	0	3	0
Business Law, Econ. 211.....	3	0	0
Industrial Psychology, Psychol. 238.....	0	0	3
Materials of Construction, C.E. 201.....	3	0	0
Elements of Electrical Engineering II, E.E. 230.....	4	4	4
Engineering Economics, I.E. 213.....	3	0	0
Electrical Industry, I.E. 222.....	0	3	0
Industrial Engineering Problems, I.E. 330.....	0	3	3
Investigation and Report, I.E. 331.....	0	0	3
Electives	6	3	3
	<u>19</u>	<u>16</u>	<u>16</u>

All seniors will be required to go on the inspection trip as part of their curriculum.

* Students who have been certified by the Department of English as proficient in English may substitute for the courses listed French, M.L. 101. These students are expected to take two years of French.

† Or 6 credits in one or two of the following departments: Economics, Psychology, History, Modern Language, Sociology.

MECHANICAL ENGINEERING

The Mechanical Engineer is primarily a designer and builder of machines and other equipment for use in manufacturing processes, transportation, and the generation of power. He is responsible for the conservation and economical use of the power-producing resources of the world, through the application of the proper kind of equipment in each field of production. He is called upon to take charge of the executive management of the manufacturing, transportation, and power industries. For the Mechanical Engineer to be well grounded in his profession he must be thoroughly familiar with both the science and the art of engineering.

The curriculum in Mechanical Engineering begins with a thorough training in mathematics, physics, and chemistry as a foundation for the technical work which is later developed along several parallel lines. The student is taught how these fundamental sciences are applied to the physical properties of the materials of construction, and to the transformation of heat energy into work and power. This is accomplished by means of courses in drafting, metallurgy, mechanics, and thermodynamics; by the work in the wood shop, forge shop, foundry, and machine shop, and by the tests performed in the mechanical laboratory.

An option is offered in the Mechanical Engineering curriculum for students who desire special training in furniture design and construction. It is the purpose of the option to prepare the students for administrative and executive positions in the furniture industry. The option includes the fundamental laws of design through the study of good examples and through the practice in construction. It also includes a study of the characteristics of the different periods, which enables the student to identify an article by its style and to name and understand its different style points. The furniture used in the dormitories and special equipment for the laboratories and offices is manufactured in our woodworking department. This gives a student special advantage in this phase of the work.

CURRICULUM IN MECHANICAL ENGINEERING

Freshman Year

For the freshman year, refer to page 118.

Sophomore Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Differential Calculus, Integral Calculus I and II,			
Math. 201, 202, 203.....	4	4	4
*Business English, Public Speaking, Eng. 120, 160.....	3	3	0
Physics for Engineers, Phys. 111, 112, 113.....	4	4	4
Mechanical Drawing, M.E. 111, 112, 113.....	2	2	2
Metallurgy, M.E. 131, 132, 133.....	2	2	2
Shopwork, M.E. 124, 125, 126.....	2	2	2
Engineering Mechanics, E.M. 211.....	0	0	3
†Military Science, Mil. 102.....	2	2	2
Physical Education, P.E. 102.....	1	1	1
	20	20	20

Surveying, C.E. s102, Summer Camp—3 credits.

Junior Year

Engineering Mechanics, E.M. 212, 213.....	3	3	0
Machine Shop II, M.E. 227, 228, 229.....	1	1	1
Engineering Thermodynamics, M.E. 207, 208, 209.....	3	3	3
Mechanical Engineering Laboratory II, M.E. 213, 214, 215	1	1	1
‡Kinematics, M.E. 217, 218, 219.....	3	3	3
Materials of Construction, C.E. 201.....	3	0	0
Strength of Materials, E.M. 221, 222.....	0	3	3
English or American Literature, Eng. 220 or 221 or 337.....	3	0	0
Fluid Mechanics, E.M. 231, 232.....	0	3	3
Business Law, Econ. 211.....	0	0	3
Electives	3	3	3
	20	20	20

Summer requirement: six weeks industrial employment.

Senior Year

General Economics, Econ. 103.....	3	3	3
Power Plants, M.E. 301, 302, 303.....	3	3	3
Heating and Air Conditioning, M.E. 304.....	0	3	0
‡Machine Design, M.E. 311, 312, 313.....	3	3	3
§Refrigeration, M.E. 305.....	0	0	3
Mechanical Engineering Laboratory III, M.E. 307, 308, 309	1	1	1
Elements of Electrical Engineering II, E.E. 230.....	4	4	4
Technical Writing I, Eng. 324.....	3	0	0
Electives	3	3	3
	20	20	20

All seniors will be required to go on the inspection trip as part of their curriculum.

* Students who have been certified by the Department of English as proficient in English may substitute for the courses listed French, M.L. 101. Such students are expected to take two years of French.

† Or 6 credits in one or two of the following departments: Economics, Psychology, History, Modern Language, Sociology.

‡ Furniture Option, M.E. 237, 238, 239, or Aero. Option, M.E. 223, third term.

§ Furniture Option, M.E. 241, 242, 243.

MECHANICAL ENGINEERING II—AERONAUTICAL OPTION

The continual development in aeronautics is constantly producing a demand for men with aeronautical training. To meet this demand, the Mechanical Engineering Department is offering an option in Aeronautics. This course is designed to train engineers for the design and practice in this field.

The option offered is essentially the Mechanical Engineering Curriculum, being almost identical for the first three years. In the fourth year, however, special emphasis is placed upon the studies pertaining to aircraft engines, the design and aerodynamics of airplanes. In addition to theoretical instruction, practical experiments and tests are made in the laboratories.

A large and well-equipped airport near the campus adds interest and offers an opportunity for practical instruction. In view of the fact that Raleigh is favorably situated on the North-South airplane course, the student will have a wonderful opportunity to inspect the various types of airplanes that make calls at the local airport.

AERONAUTICAL OPTION

Freshman and sophomore years identical with Mechanical Engineering.

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Engineering Mechanics, E.M. 212, 213.....	3	3	0
Machine Shop II, M.E. 227, 228, 229.....	1	1	1
Engineering Thermodynamics, M.E. 207, 208, 209.....	3	3	3
Mechanical Engineering Laboratory II, M.E. 213, 214, 215	1	1	1
Kinematics, M.E. 217, 218.....	3	3	0
Introduction to Aeronautics, M.E. 223.....	0	0	3
Materials of Construction, C.E. 201.....	3	0	0
Strength of Materials, E.M. 221, 222.....	0	3	3
Fluid Mechanics, E.M. 230.....	0	0	3
Business Law, Econ. 211.....	0	3	0
Technical Writing I, Eng. 324.....	0	0	3
English or American Literature, Eng. 220 or 221 or 337....	3	0	0
Electives	3	3	3
	20	20	20

Summer requirement: six weeks industrial employment or ten hours solo flying.

Senior Year

General Economics, Econ. 103.....	3	3	3
Aircraft Engines, M.E. 321, 322, 323.....	3	3	3
Airplane Design, M.E. 325, 326, 327.....	3	3	3
Aerodynamics, M.E. 317, 318, 319.....	3	3	3
Aeronautical Laboratory, M.E. 331, 332, 333.....	1	1	1
Elements of Electrical Engineering II, E.E. 230.....	4	4	4
Electives	3	3	3
	20	20	20

All seniors will be required to go on the inspection trip as part of their curriculum.

THE ENGINEERING EXPERIMENT STATION

The Engineering Experiment Station of the North Carolina State College of Agriculture and Engineering was established in 1923, as provided by the General Assembly of that year. It is an integral part of the School of Engineering, and is engaged in an organized program of research consisting of individual projects carefully defined and approved, which are carried on by engineering teachers. The Station fits uniquely into the program of instruction, research and extension of State College.

Purpose

The efforts of the Engineering Experiment Station are directed along the following lines:

(a) The investigation of resources and processes, through experimentation and tests, with the object of opening and developing wider fields for the use of the natural resources of the State.

(b) Coöperation with industrial organizations in the solution of technical problems, which require such facilities and equipment as are available at State College.

(c) The coördination of research work undertaken by the Engineering School.

(d) The publication of the results of experimental and research projects made by the Engineering Experiment Station and the several engineering departments of State College.

THE TEXTILE SCHOOL

THOMAS NELSON, *Dean and Director of Textile Research*

ORGANIZATION

Instruction in textile work has been given at State College since 1900, at which time the Textile Department was organized. The Board of Trustees at its meeting, June 8, 1925, decided to expand the Textile Department, and the Textile School is now one of the three major divisions of the College.

The Textile Building was enlarged, new equipment added, and other facilities, especially those for research, have been increased in order to serve adequately the textile industry. A complete program of instruction, research, and extension has been developed to meet the great opportunities and needs of the textile industry in the State and in the South.

The Textile School comprises the following divisions: (a) Yarn Manufacture and Knitting, (b) Weaving and Designing, (c) Textile Chemistry and Dyeing, (d) Textile Research. The aim of each division is definite, and the courses and curricula offered make special contribution to the profession.

THE PURPOSE OF THE SCHOOL

The purpose of the Textile School is: (1) to promote the textile interests of the State by giving instruction in the theory and practice of all branches of the textile industry; (2) to coöperate with the textile mills of the State in securing, through scientific research and experimentation, reliable data pertaining to the textile industry; (3) to educate men for professional service in Textile Manufacturing, Textile Management, Yarn Manufacturing, Weaving and Designing, Knitting, Textile Chemistry and Dyeing, and at the same time develop their capacities for intelligent leadership so they may participate in public affairs; (4) to demonstrate the value of economic diversification and to aid in the development of the textile industry through research and experimentation.

North Carolina is the largest textile manufacturing State in the South and has more mills than any other state in America. It has the largest towel, damask, denim and underwear mills in America, and has more mills that dye and finish their own products than any other Southern State. A great diversification of manufactured textile products is being made in cotton, rayon, silk, and worsted.

Never before in the history of America have more opportunities been offered to young men of North Carolina and the South than are available today to graduates of the Textile School.

The courses of instruction are arranged and grouped so that students may get the best results from their work, and accumulate the necessary knowledge, which, together with actual experience after graduation, enables them to fill such positions as:

Owners of mills;
Secretaries and treasurers of mills;
Managers, superintendents, and department foremen in cotton, rayon, silk and hosiery mills;
Superintendents and foremen in mercerizing, bleaching, dyeing and finishing plants;
Designers and analysts of fabrics;
Technical demonstrators in dyestuff industry;
Textile chemists;
Textile cost accountants in mills;
Purchasing agents for mills;
Salesmen of machinery, yarn, cloth, rayon, dyestuffs, and chemicals;
Positions in yarn and fabric commission houses and with fabric converters;
Specialists in government service;
Representatives for manufacturers of machinery, rayon, dyestuffs, and mill supplies.

INSPECTION TRIP

Each student is required to make an inspection trip during his senior year to mills making various classes of fabrics, also to bleaching, finishing, and hosiery plants. The trips are made in chartered busses.

RAYON

Rayon is an important factor in the development of the Southern Textile Industry as it is used extensively in the manufacture of fabrics, hosiery and underwear. It has opened up new fields of creative effort and greatly broadened the scope of textile manufacturing.

The Textile School is cognizant of this development and offers instruction in designing, warp preparation, weaving, dyeing and finishing of rayon fabrics and hosiery.

CURRICULA

The freshman and sophomore work is the same for all students in the Textile School. The training is general, and gives the student a good opportunity to make a wise choice in the selection of the particular field in which he desires to specialize.

TEXTILE CURRICULA FOR UNIVERSITY AND COLLEGE GRADUATES

Selected courses leading to the degree "Bachelor of Science" in Textiles are offered to graduates of universities and standard colleges. These are arranged in accordance with the vocational aim of the individual student and in the light of credits presented from the institution from which the student has been graduated, subject to the approval of his adviser and

the director of instruction. In cases where the student presents enough credits which may be used for courses required in his curriculum he may be graduated with a B.S. degree in one year. In no case should it take more than two years to complete the work for his B.S. degree.

SHORT COURSE FOR TEXTILE MILL MEN

Instruction in yarn manufacturing, weaving, designing, fabric analysis and dyeing, lasting two weeks in the second term, is offered for textile mill men who wish to make a short and intensive study of any of these subjects. The subject matter will be selected to suit the requirements of each individual.

DEGREES

Upon the completion of any one of the curricula in Textiles the degree of Bachelor of Science in Textiles is conferred.

The degree of Master of Science in Textiles is offered for the satisfactory completion of one year of graduate study in residence. Candidates for the degree of Master of Science in Textiles enter and are enrolled as graduate students in the Graduate School.

The professional degree of Master of Textiles may be conferred upon graduates of the Textile School after five years of professional practice in charge of important work and upon the acceptance of a satisfactory thesis.

ADMISSION

Each applicant for admission must present evidence that he has satisfactorily completed a four-year curriculum of not less than fifteen units in a secondary school which is approved by the State Department of Education.

Each applicant for admission must be at least sixteen years old and must submit fifteen units of credit from an accredited high school. Of these units 8.5 are in specified subjects and 6.5 in elective subjects.

ADVANCED STANDING

Students who have attended colleges of approved standing will be given appropriate credit for work completed there upon the presentation of the proper certificate to the Dean of the Textile School, who will determine the credits for the curriculum which the student wishes to take.

REQUIREMENTS FOR GRADUATION

The requirements for graduation in the Textile School are the satisfactory completion of all the courses in one of the prescribed curricula (see tabulations of curricula on the pages following), a total of not less than 230 term credits, and also not less than 230 points calculated under the point system.

Of the minimum of 230 term credits required for graduation in the Textile School 153 are common to all curricula, that is, 12 term credits in Mathematics, 18 in Language, 36 in Economics, History and Psychology, 12 in Chemistry, 15 in Physics, 12 in Engineering, 6 in Agriculture, 24 in Textile, 12 in Military Training (or Social Science alternatives) and 6 in Physical Education.

Each of the curricula permits election of 18 term credits and contains not more than 70 special technical credits.

CURRICULUM IN TEXTILE MANUFACTURING

Freshman Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
Composition, Eng. 101.....	3	3	3
Physics for Textile Students, Phys. 102, 103, 104.....	4	4	4
Algebra, Trigonometry, Math. 101, 102.....	6	6	0
Engineering Drawing I, M.E. 101, 102, 103.....	2	2	2
Shopwork, M.E. 121, 122, 123.....	1	1	1
Textile Principles, Tex. 101, 115.....	1	1	4
Military Science I, Mil. 101, or World History, Hist. 104.....	2	2	2
Fundamental Activities and Hygiene, P.E. 101.....	1	1	1
	20	20	17

Sophomore Year

Economic History, Hist. 101.....	3	3	3
Decorative Drawing, Arch. 109, or Light in Industry, Phys. 205.....	3	0	0
Light in Industry, Phys. 205, or Decorative Drawing, Arch. 109.....	0	0	3
General Inorganic Chemistry, Chem. 101, 103, 105.....	4	4	4
Cotton, Cotton Classing II, F.C. 105, 225.....	3	3	0
Yarn Manufacture I, Tex. 102, 103.....	1	0	4
Power Weaving, Tex. 107, 108.....	1	3	0
Fabric Structure and Analysis, Tex. 106.....	0	2	2
Knitting I, Tex. 104, 105.....	3	1	1
*Military Science II, Mil. 102.....	2	2	2
Sport Activities, P.E. 102.....	1	1	1
	21	19	20

Junior Year

English or Modern Language.....	3	3	3
General Economics, Econ. 103.....	3	3	3
Textile Calculations II, Tex. 316.....	0	0	3
Yarn Manufacture II, Tex. 201, 202.....	1	4	1
Dobby Weaving, Tex. 207, 208.....	1	1	4
Fabric Design and Analysis I, Tex. 205.....	3	3	0
Dyeing I, Tex. 112, 113.....	4	1	1
Electives	3	3	3
	18	18	18

Senior Year

Industrial Management, Personnel Management, Econ. 230-A, 240.....	3	3	3
Introduction to Psychology, Psychol. 200.....	3	0	0
Applied Psychology, Psychol. 202.....	0	3	0
Industrial Psychology, Psychol. 238.....	0	0	3
or Accounting I, Econ. 201.....	3	3	3
Yarn Manufacture IV, Tex. 301, 302.....	4	1	1
Leno Design, Tex. 320.....	3	0	0
Dobby Design, Tex. 321.....	0	3	0
Jacquard Design, Tex. 322.....	0	0	3
Cotton and Rayon Weaving, Tex. 312, 313.....	1	1	4
Cotton and Rayon Dyeing I, Tex. 210, 211.....	1	4	1
Fabric Analysis, Tex. 311.....	2	2	0
Fabric Testing, Tex. 109.....	0	0	1
Electives	3	3	3
	20	20	19

* Or 6 credits in one or two of the following departments: Economics, Psychology, History, Modern Language, Sociology.

CURRICULUM IN TEXTILE CHEMISTRY AND DYEING

(The freshman and sophomore years are the same as for Textile Manufacturing.)

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
English or German.....	3	3	3
General Economics, Econ. 103.....	3	3	3
Introduction to Psychology, Psychol. 200, or Textile Courses	0	0	3
Qualitative & Quantitative Analysis, Chem. 211, 212, 214	4	4	4
Dyeing II, Tex. 212, 213.....	5	5	2
Electives	3	3	3
	<hr/> 18	<hr/> 18	<hr/> 18

Senior Year

Industrial Management, Personnel Management, Econ. 230-A, 240.....	3	3	3
Organic Chemistry, Chem. 321.....	4	4	4
Applied Psychology, Psychol. 202.....	0	3	0
Industrial Psychology, Psychol. 238..... or Textile Courses	0	0	3
Textile Microscopy, Tex. 114.....	1	1	0
Fabric Testing, Tex. 109.....	0	0	1
Textile Printing, Tex. 214, 215.....	4	1	1
Cotton and Rayon Dyeing II, Tex. 317, 318.....	2	5	5
Electives	6	3	3
	<hr/> 20	<hr/> 20	<hr/> 20

CURRICULUM IN TEXTILE MANAGEMENT

(The freshman and sophomore years are the same as for Textile Manufacturing.)

Junior Year

COURSES	CREDITS		
	First Term	Second Term	Third Term
English or Modern Language.....	3	3	3
Accounting I, Econ. 201.....	3	3	3
General Economics, Econ. 103.....	3	3	3
Textile Courses	6	6	6
Electives	3	3	3
	18	18	18

Senior Year

Industrial Management, Personnel Management, Econ. 230-A, 240.....	3	3	3
Marketing Methods, Econ. 215.....	3	3	3
Introduction to Psychology, Psychol. 200.....	3	0	0
Applied Psychology, Psychol. 202.....	0	3	0
Industrial Psychology, Psychol. 238.....	0	0	3
Textile Courses	8	8	7
Electives	3	3	3
	20	20	19

Textile Courses to be selected from:			
Fabric Design and Analysis I, Tex. 205.....	3	3	0
Yarn Manufacture II, Tex. 201, 202.....	1	4	1
Dobby Weaving, Tex. 207, 208.....	1	1	4
Dyeing, Tex. 112, 113.....	4	1	1
Textile Calculations, Tex. 307 or 316.....	3	or	3
Yarn Manufacture IV, Tex. 301, 302.....	4	1	1
Leno Design, Tex. 320.....	3	0	0
Dobby Design, Tex. 321.....	0	3	0
Jacquard Design, Tex. 322.....	0	0	3
Calculating Fabric Costs, Tex. 330.....	0	3	0
Cotton and Rayon Weaving, Tex. 312, 313.....	1	1	4
Cotton and Rayon Dyeing, Tex. 210, 211.....	1	4	1
Fabric Analysis, Fabric Testing, Tex. 311, 109.....	2	2	1
Manufacturing Problems, Tex. 308.....	0	0	8
Color in Woven Design, Tex. 315.....	3	3	0

CURRICULUM IN WEAVING AND DESIGNING

(The freshman and sophomore years are the same as for Textile Manufacturing.)

Junior Year

COURSES	CREDITS		
	<i>First Term</i>	<i>Second Term</i>	<i>Third Term</i>
English or Modern Language.....	3	3	3
General Economics, Econ. 103.....	3	3	3
Appreciation of Fine Arts, Arch. 208, or Textile Courses	3	3	0
Textile Calculations II, Tex. 316.....	0	0	3
Fabric Design and Analysis, Tex. 205.....	3	3	0
Jacquard Design, Tex. 322.....	0	0	3
Dobby Weaving, Tex. 207, 209.....	2	2	5
Electives	3	3	3
	17	17	20

Senior Year

Industrial Management, Personnel Management, Econ. 230-A, 240.....	3	3	3
Introduction to Psychology, Psychol. 200.....	3	0	0
Applied Psychology, Psychol. 202.....	0	3	0
Industrial Psychology, Psychol. 238.....	0	0	3
Leno Design, Tex. 320.....	3	0	0
Dobby Design, Tex. 321.....	0	3	0
Fabric Design and Analysis II, Tex. 206.....	0	0	3
Jacquard Design Laboratory, Tex. 310.....	1	1	1
Color in Woven Design, Tex. 315.....	3	3	0
Cotton and Rayon Weaving, Tex. 312, 314.....	2	2	5
Fabric Analysis, Tex. 311.....	2	2	0
Fabric Testing, Tex. 109.....	0	0	1
Electives	3	3	3
	20	20	19

CURRICULUM IN YARN MANUFACTURING

(The freshman and sophomore years are the same as for Textile Manufacturing.)

Junior Year

COURSES	CREDITS		
	<i>First Term</i>	<i>Second Term</i>	<i>Third Term</i>
English or Modern Language.....	3	3	3
General Economics, Econ. 103.....	3	3	3
Accounting I, Econ. 201.....	3	3	0
Yarn Manufacturing III, Tex. 203.....	0	3	3
Yarn Manufacture Laboratory III, Tex. 204.....	2	2	2
Dobby Weaving, Tex. 207, 208.....	1	1	4
Dyeing I, Tex. 112, 113.....	4	1	1
Electives	3	3	3
	19	19	19

Senior Year

Industrial Management, Personnel Management, Econ. 230-A, 240.....	3	3	3
Introduction to Psychology, Psychol. 200.....	3	0	0
Applied Psychology, Psychol. 202.....	0	3	0
Industrial Psychology, Psychol. 238.....	0	0	3
Machine Shop II, M.E. 227, 228, 229.....	1	1	1
Elements of Electrical Engineering I, E.E. 220.....	0	3	3
Textile Calculations I, Tex. 307.....	3	0	0
Yarn Manufacturing V, Tex. 303, 304.....	5	5	2
Manufacturing Problems, Tex. 308.....	0	0	3
Electives	6	3	3
	21	18	18

TEXTILE RESEARCH

One of the most important developments in connection with the Textile School is the expansion of Textile Research. This will have a decided influence on cotton production as well as cotton manufacturing.

The aims of this research are:

1. A study of the cotton fibre from various sections of the cotton-growing areas of North Carolina and elsewhere, with special emphasis on their affinity for bleaching, dyeing, and mercerization.

2. Testing yarns and fabrics from different cottons to determine shrinkage, standard breaking strength, etc.

3. Testing starches used in sizing, and testing dyes and their properties.

4. Studying the problem of waste, due to selection of imperfect fibre, and improper use of machinery.

5. Testing the uses of the cotton fibre for mechanical as well as domestic uses and extending the research into market demands.

6. Studying designs and methods of finishing goods and the economic advantage to be derived from manufacturing fabrics of higher standards.

7. Studying the cotton mills of North Carolina, their mechanical equipment, and what gradual changes may be effected in order to meet the market demands of the future.

8. Investigating the possible mechanical uses of the cotton fibre, with a view to enlarging the demands for the fibre, thus making it possible to increase cotton production without creating a depressing effect on the producer.

State College has an ideal environment for the Textile School that will be helpful alike to the manufacturer and the cotton farmer. We have the cotton produced at the Experiment Station, and specialists in plant breeding, seed selection, soils, proper use of fertilizers, etc.

Other departments of the College are well equipped to give aid along mechanical and scientific lines.

The Textile Research Department is equipped with a full complement of machinery for yarn manufacturing, and also with the necessary apparatus for testing fibres, yarns, fabrics, analysis of starches and oils, photomicrography, and for other research.

It is, therefore, possible to make a complete study of fibre from the field to the finished fabric.

GRADUATE SCHOOL OF THE UNIVERSITY OF NORTH CAROLINA

WILLIAM WHATLEY PIERSON, JR., *Dean*
Graduate Instruction at N. C. State College

COMMITTEE ON GRADUATE INSTRUCTION

Graduate Instruction in this institution is organized to formulate and develop graduate study and research in the fields primarily of Agriculture, Engineering, and Textile Manufacturing, and the training of teachers related to these subjects. The State of North Carolina holds a place of prestige among the states of the southeast in Agriculture and in Engineering and Manufacturing. The urgent need for graduate instruction and research in these fields is recognized by the workers and especially by the leaders in the occupations which depend upon the development of these branches of knowledge. This institution, therefore, offers training for teachers, investigators, and leaders in Agriculture, Engineering, Education, and Manufacturing; and in these pursuits the College aims to maintain sound standards, principles, and ideals.

Unless graduate study and research in the technological and related fields are provided, the institutions of higher learning in this section of the country will look elsewhere for trained men, and there should be a fair balance of such men from every section of the country.

ADMINISTRATION

Subject to the final approval of the Faculty Council, graduate work is directed by a Committee on Graduate Instruction. All subjects to be taken by graduate students are passed upon by the College Committee on Courses of Study. Actual instruction is given by the regular members of the faculty under the supervision of the Director of Instruction, the Head of the Department, or the Dean of the School in which the student is working.

FACILITIES FOR RESEARCH

State College offers exceptional facilities and opportunities for research. The Agricultural Experiment Station of North Carolina, the Engineering Experiment Station, and the Research Laboratories of the Textile School are integral parts of the College. In the Textile School, besides the research carried on by regular members of the staff, the Bureau of Agricultural Economics and other bureaus at Washington have, for some years, used the facilities of the School for special research. Graduate students have the advantages offered by all these agencies in addition to the regular laboratories used for instruction.

In its undeveloped resources and raw materials, as well as in its going concerns in business and industry, in its varied topography and products, North Carolina is a rich field for research. The State is already imbued with a spirit of progress stimulating to intellectual growth.

SCHOLARSHIPS AND FELLOWSHIPS

The College offers annually graduate fellowships and a number of teaching and research fellowships. Besides these, special fellowships are supported by large business organizations.

College Fellowships give tuition and a stipend of \$450 an academic year, paid in nine equal installments, a month apart, beginning October 25. The holder of a fellowship may be required to render a maximum of ten hours a week of service to the department in which he is specializing.

Teaching and Research Fellowships give tuition and \$500 or more an academic year. The holder of one of these fellowships may not carry more than half a full schedule of graduate studies. The rest of his time must be given to teaching in classroom or laboratory or to research in one of the Experiment Stations.

The Honor Society of Phi Kappa Phi Fellowship. The State College chapter offers \$50 annually, preferably to a member of the society, for the purpose of assisting in the promoting of research and advanced training of worthy students.

Special Fellowships have for some years been maintained by business or manufacturing organizations desirous of having research made on certain problems pertaining to their interests. Some organizations maintaining these scholarships have been the National Fertilizer Association, The N. V. Potash Export My., The American Cyanimid Company, The Superphosphate Institute, E. I. DuPont de Nemours Company, The Niagara Sprayer and Chemical Company, The Eli Lilly and Company, The American Potash Institute, and the North Western Yeast Company. The stipends afforded by these fellowships have varied from \$720 to \$1,500 for twelve months. It is hoped that some of these may be available for the year 1937-38.

REQUIREMENTS FOR ADMISSION AND DEGREES

Degrees

The College grants degrees for work done in residence and for work done during the practice of a profession, as follows:

Degrees In Residence

Master of Science in Agriculture	Master of Science in Education
Master of Science in Engineering	Master of Science in Textiles
Master of Science (pure, not applied)	

Professional Degrees

Master of Agriculture	Chemical Engineer
Master of Textiles	Civil Engineer
Ceramic Engineer	Electrical Engineer
Mechanical Engineer	

DEGREES IN RESIDENCE**Admission**

1. A candidate for admission to graduate study must present an authorized transcript of his collegiate record as evidence that the candidate holds a bachelor's degree for a four years' undergraduate course from a college whose standards are equivalent to those of State College.

2. Admission to courses of graduate work does not necessarily mean that a student may immediately become a candidate for an advanced degree. If the student is not prepared to do graduate work at once he may pursue undergraduate courses which will best fit him for advanced work.

3. A member of the senior class of State College may, upon the approval of the Committee on Graduate Instruction, register for graduate courses to fill a roster of studies not to exceed eighteen credits for any term.

Credits

1. For all master of science degrees, forty-five term credits are required, a credit being given for an hour of class work successfully completed through a term. Besides the term credits, for all master of science degrees a thesis must be written and approved.

2. Not more than ten of the academic credits required for a graduate degree will be accepted from other institutions.

3. No graduate credit will be allowed for excess undergraduate credit from any other institution unless the institution is giving graduate work, conferring graduate degrees, and certifies that the credit offered is of graduate grade.

Courses of Study

As designated in the College Catalog under Description of Courses, the courses numbered 400 to 499 are for graduate students only and those numbered 300 to 399 are for graduates and advanced undergraduates.

The program of the student shall contain at least twelve credits in courses of the 400 group. Nine credits in this group may be obtained in approved research courses. A maximum of 33 credits, upon which a minimum grade of B must be made, may be gained in the 300 group.

The student's program of studies, made under the supervision of the student's adviser, must be approved by the Dean of the School in which the student is specializing and finally by the Committee on Graduate Instruction.

Language Requirements

A reading knowledge of at least one modern foreign language is required for candidates for the Master's degree. The knowledge will be tested by a special examination by the language department.

Thesis

A graduate student, candidate for the Master's degree, must prepare under the supervision of the student's adviser a thesis upon a subject, approved by the adviser, in the field of the student's special work. Two copies, the original and the first carbon, of the completed thesis must be presented to the Committee on Graduate Instruction at least one month before the degree is awarded.

Residence

A candidate for a degree of Master of Science is required to be in residence at the College, pursuing graduate work, one full academic year of three terms. The candidate is not permitted to take course leading to the forty-five credits in a shorter time.

Six summer schools of six weeks in residence at the College are reckoned sufficient to fulfill the residence requirement. By specific approval of the Committee on Graduate Instruction, one summer period may be spent away from the College if devoted to the preparation of the thesis required for graduation.

In special cases it is possible for graduate students to do twelve weeks work during a summer session, provided instructors will remain at the College throughout the summer. Under these provisions a minimum of four summer sessions, two of twelve weeks and two of six weeks, are required for residence.

Class Work and Examinations

As a mature student admitted to graduate study only after ability and earnestness are established, the graduate student is expected to assume greater individual responsibility, and since specializing, to work in a more comprehensive manner than the undergraduate. However, in preparation, in attendance, and in all the routine of class work, the graduate student is subject to the regulations observed in other divisions of the College.

Besides the examinations in class, the graduate student, at least two weeks prior to graduation, has a general examination on his work.

PROFESSIONAL DEGREES

Significance of Professional Degrees

The professional degrees are not honorary; they are tests of ability and testimonials of accomplishment. To merit the professional degree, a candidate must, in his thesis, demonstrate his ability to attack and to solve a new problem of sufficient complexity to require distinctly original

processes of thought, and the solution of which shall make, however small, yet a real contribution to his profession. The record of his work must demonstrate his power to conceive, to plan, to organize, to carry through to completion a project of considerable magnitude. The candidate should quite obviously have grown professionally since his graduation and evince intellectual vitality to guarantee the continuance of his growth.

The conditions for awarding the degrees are as follows:

Requirements for Professional Degrees

1. A professional degree may be conferred upon a graduate of State College in the School in which the candidate received the Bachelor's degree; besides, the degree of Master of Agriculture may be conferred upon graduates of other institutions who have performed outstanding professional service in agriculture for the State of North Carolina for a continuous period of not less than five years.

2. The degree of Master of Agriculture may be conferred upon graduates after five years of service in agriculture and upon the acceptance of a thesis.

The degree in engineering or in textiles may be conferred upon graduates of State College after five years' professional practice in responsible charge of important work, and upon the acceptance of a thesis on a subject related to the practice in which the applicant has been engaged.

3. Application for the degree must be presented to the Committee on Graduate Instruction not less than nine months before the degree may be conferred.

4. With the application (for a degree) the candidate must present, as preliminary basis for the degree, (1) the subject of a thesis he purposes to write, and (2) a statement in outline of his professional work since graduation, both of which must be approved by the committee.

5. The completed thesis must be submitted, on or before May 1, to the committee for consideration, and with it a detailed statement, duly certified, of the candidate's professional work since graduation, upon which, in addition to the thesis, the degree is to be awarded.

6. Upon notification that thesis and work have been approved by the committee as worthy basis for the degree, the candidate shall, upon a specified date, appear before the committee for oral or written examination on his work and his thesis.

Correspondence about graduate work preferably should be addressed to the Dean of the School concerned.

COLLEGE EXTENSION DIVISION

EDWARD W. RUGGLES, *Director*

PURPOSE

The North Carolina State College of Agriculture and Engineering offers technical education in Agriculture, Engineering, Science and Business to all properly qualified students who come within its walls. There are many persons in North Carolina, however, who for various reasons cannot attend classes on the campus, although they have a desire and a need for the type of training which is offered by this institution. Therefore the College offers correspondence courses, lecture courses, and extension class instruction to the citizens of the State in the fields of Agriculture, Engineering, Science, and Business.

FOR WHOM INTENDED

The College Extension Division offers courses similar to those given on the campus to any one who desires to take such courses and who is qualified to do the work. The courses offered, although making a general appeal, will be particularly helpful for the following classes of persons:

1. College students who are unable to pursue continued resident study.
2. Rural grade and high school teachers who cannot avail themselves of resident instruction.
3. Teachers and others who have partially completed work for a college degree and who desire to pursue work along some special line, or who desire further training to better equip themselves for their vocations.
4. Professional and business men who wish to supplement their training with technical information.
5. Farmers, county agents, and others who desire additional information and training in any phase of agricultural work.
6. Practical men engaged in the various industries who want to become more efficient in their occupations.

CREDITS

For admission to courses for College credit, the student must meet the regular College entrance requirements, and file a transcript of his previous school record. Persons of mature age, however, who are qualified to do the work may be admitted without meeting the regular entrance requirements. The ability of the student to enter upon the work of any individual course is passed upon by the instructor in charge of the course. Not more than fifty term credits may be earned by correspondence, and not more than sixty by correspondence and extension. Not more than six credits and (or) eighteen points may be earned toward graduation after a student's last residence at this institution. Extension work cannot be taken while a student is in residence without special permission.

Collegiate credit for courses completed by correspondence shall conform as nearly as possible to the same regulations that govern resident work. Correspondence courses are based upon the unit course, which is divided when practicable into sixteen assignments, representing a three-credit course for one term in residence. Variations from the unit course are indicated by the number of credits, or by the number of assignments or class meetings when College credit is not given. No student will be allowed to take more than two courses by correspondence at one time, and it is recommended that one course be completed before beginning another.

A correspondence course must be completed within one year, unless further time is granted by the Director of Extension, in which case a renewal fee will be required.

No correspondence course may be completed in less than one month from date of registration.

Those who wish credit for correspondence work must take a final examination upon the completion of all assignments in a course. This examination may be taken at the College or at home under conditions approved by the College authorities.

Before receiving credit for any correspondence course all corrected assignments must be returned to the College Extension Division.

The Division of Certification of the State Department of Public Instruction will credit toward State teachers' certificates courses completed by correspondence or extension classes for which the College gives credit toward a degree, but not to exceed twelve term credits in any one school year if the teacher is regularly employed. It is possible, therefore, for teachers to earn both certification and degree credits at the same time.

FEES

For courses involving five term hours of credit a fee of \$12 is charged, and a proportionate fee is charged for courses of less than five credit hours, based on a fee of \$2.50 per term hour credit. No fees can be refunded after a course is once begun. The registration fee holds good for twelve months only, unless further time is granted by the Director of Extension.

COURSES

Any person who desires to obtain College credit by means of extension classes or by correspondence courses should write to the College Extension Division, requesting one of the extension bulletins which contains complete information concerning methods of instruction, fees, and the conditions upon which College credit will be granted. In all cases where College credit is desired a final examination must be taken by the student, either at State College or under the supervision of some one in the community designated by the College. The examination given will be parallel with that given for the same course at the College.

The courses for correspondence study and extension classes are listed below:

Agricultural Economics 261*, 268*; *Animal Husbandry* 101*, 211*; *Architectural Engineering* 107, 206*, 208, 214; *Botany Ex.* 199; *Ceramic Engineering* 103*, 104*, 208*, 213*, 207*, 208, 214*, 210*, 301*; *Chemical Engineering* 201*; *Chemistry Ex.* 199, 240, 341, 344; *Economics* 103*, 102*, 211*; *Education* 101, 203*, 208, 260, s303, 320*, 321*, 322, 327, 330, 331, s337, 340, Ex. s352*, Ex. s354, s364, 368, 370, 371*, Ex. 375*, 376, 377; *English* 101, 120*, 130, 150*, 160, s202, 220, 221*, 223, 226, 227, 235, 236, 238, 251, 253, Ex. 261, 269, 319, 320, 330, 332, 333, 334, 335, 336, 337, 364; *Field Crops* 101*; *Geology* 101, 120*, 125, 205, 207*, 230, 280, s291; *History* 101*, 104, 200, 201*, Ex. 203, 204*, 212, 303*, 307*, 310; Ex. 320, Ex. 321*, Ex. 322; *Horticulture* 101, 209*, 228*; *Mathematics* 100, 101, 102, 103, 201, 202, 203; *Mechanical Engineering* 101*, 102*; *Modern Language* 101*, 102, 103*, 104, 105, 106*, 107, 208, 209, 310, 311, 312, 313, 314, 315, Ex. 316, Ex. 317; *Physics Ex.* 199, 312; *Poultry* 101*, 303*, 305*; *Sociology* 101*, 102, 103*, 300*, 301*, Ex. 302*, 305, Ex. 306, 307, 308, 310*, 312; *Soils* 110, Ex. 120, Ex. 215, Ex. 220, 270*, 310*, 315, 320*; *Zoology Ex.* 199, Ex. 107, Ex. 108*, Ex. 220, 208.

* Courses available by correspondence.

Practical Courses—Industrial Electricity*, Practical Engineering Drawing*, Practical Land Surveying*, Practical Mathematics*, Plumbing*, Electrical Meters*, Air-Conditioning*, Photography*, Elementary Radio*, Non-Credit Reading Courses are available in American History, American Literature, American Men of Science, Economics, Natural Science, on Intelligent Buying, Psychology, Sociology and Useful Arts.

NOTE: A Correspondence Course Catalog giving full details and description of these courses may be obtained from The College Extension Division.

1938 SUMMER SESSION

June 13-July 22, 1938

The twenty-fifth Summer Session of the North Carolina State College of Agriculture and Engineering will be operated as an integral part of the Institution, and will be administered by the regular administrative officers of the College.

The distinctive work of the State College Summer Session is to serve the people of North Carolina who are interested in technical education. However, the Summer Session will continue to provide courses for in practically all fields of study offered during the regular session, thus providing opportunities for students to remove conditions, or to take special courses which will enrich their college education.

Special courses for teachers in industrial arts and guidance and character education will be provided.

Fees and Expenses for Six Weeks Period

All fees and other charges are payable in advance or upon registration, and all checks should be payable to North Carolina State College.

Room rent (per person).....	\$ 7.50
Board at College Cafeteria (estimate).....	30.00

All students occupying a room alone will be charged \$10.00.

College Fees

Registration fee	\$ 3.00
Course fee (each quarter hour credit).....	3.00
Laboratory fee for students taking Surveying.....	2.00
Medical fee	1.00

For Summer Session Catalogue and additional information write Office of Registration, N. C. State College, Raleigh, N. C.

DESCRIPTION OF COURSES

AGRICULTURAL ECONOMICS

Courses for Advanced Undergraduates

Agr. Econ. 260. Agricultural Economics. 0-0-3

Required of sophomores in Agriculture. Prerequisite: Econ. 102 or 103.

A study of the economics of agricultural production, the marketing of farm products, farm credit, land tenure and other major economic problems of the farmer. Messrs. Clement, Forster, Leager.

Agr. Econ. 261. Farm Management I. 0-0-3

Required of juniors in Agricultural Economics, Agriculture and Vocational Education. Prerequisite: Econ. 102 or 103.

The principles involved in the successful operation of the farm, farm planning, management of labor, farm work programs, use of machinery, and farm administration. Mr. Forster.

Agr. Econ. 262. Farm Accounting. 0-0-3

Required of juniors in Vocational Agriculture. Prerequisite: Econ. 102.

The practical aspects of farm accounting, preparation of inventories of farm property, simple financial statements, method of keeping farm records, analysis and the interpretation of results obtained from farm business transactions. Mr. Leager.

Agr. Econ. 263. Farm Cost Accounting. 0-0-3

Required of seniors in Agricultural Economics. Prerequisite: Econ. 102 or 103, and 201.

The principles of accounting applied to farm transactions, the preparation of financial statements, the methods of keeping farm records, analysis of an individual farm record, and the interpretation of cost accounting results. Mr. Leager.

Agr. Econ. 265. Agricultural Marketing. 3-0-0

Required of seniors in Agricultural Economics, Agriculture, and Vocational Education. Prerequisite: Econ. 102 or 103.

The economic principles underlying successful marketing of farm products, market organization and control, price-making forces and critical examination of the present system of marketing farm products.

Mr. Leager.

Agr. Econ. 268. Grades, Standards, and Inspection. 0-3-0

Required of seniors in Agricultural Economics. Prerequisite: Econ. 102 or 103.

History of the grades and standards of important agricultural products, together with the technic of inspection. Mr.

Agr. Econ. 269. Land Economics.

0-3-0 or 0-0-3

Required of sophomores in Forestry. Prerequisite: Econ. 102 or 103.

The problems of land economics including land classification and land use with special emphasis on forest land, land ownership and control, the principles of land valuation, policies of land settlement and development, the taxation of forest lands.

Mr. Forster.

Courses for Graduates and Advanced Undergraduates**Agr. Econ. 362. Farm Management II.**

0-0-3

Required of seniors in Agricultural Economics. Prerequisite: Agr. Econ. 261.

The application of farm management principles to the management and organization of farms in typical regions of the State.

Mr. Greene and Mr. Forster.

Agr. Econ. 363. Agricultural Coöperation.

0-3-0

Required of seniors in Agricultural Economics. Prerequisite: Econ. 102 or 103.

Specific consideration is given to local community coöperation, both economic and social, farmers' buying, selling, and service organizations.

Mr. Clement.

Agr. Econ. 364. Land Economics.

0-0-3

Elective. Prerequisite: Econ. 103, Agr. Econ. 260, and 6 additional term credits in Economics.

The economic problems of land classification, ownership and acquisition of land, tenancy and land ownership, the functions of the landlord and the tenant, land valuation and land speculation.

Mr. Forster.

Agr. Econ. 366. Marketing Methods and Problems.

3-0-0

Required of seniors in Agricultural Economics.

Prerequisite: Econ. 103, Agr. Econ. 260, and 6 additional term credits in Economics.

A careful study of the problems and methods involved in the marketing of farm products. Suggestions for improvement will be stressed.

Mr. Smith.

Agr. Econ. 367. Agricultural Finance.

0-3-0

Elective. Prerequisite: Econ. 102, Agr. Econ. 260, and 6 additional term credits in Economics.

Principles involved in financing the production and marketing of agricultural products. Consideration of farm mortgage credit, personal and intermediate credit, and agricultural taxation.

Mr. Forster.

Agr. Econ. 368. Cotton and Tobacco Marketing. 3-0-0 or 0-3-0

Required of seniors in Agricultural Economics. Prerequisite: Econ. 102, Agr. Econ. 260, Agr. Econ. 265, and 3 additional credits in Economics.

Problems arising in connection with the marketing of cotton and tobacco. Particular attention is given to the methods and practices used in the marketing of tobacco and cotton.

Mr. Forster and Mr. Smith.

Agr. Econ. 369. Agricultural Extension Methods. 3 credits

A study of office record systems, office management, program determination, program development, reports and their use; and the obtaining, preparation, and use of material in Extension teaching.

Dean of the School of Agriculture and his staff.

Courses for Graduates Only**Agr. Econ. 403. Economics of Agricultural Production. 3-0-0**

Prerequisite: Econ. 103, Agr. Econ. 260, and 6 additional term credits in Economics.

Economic theories applicable to agricultural production. The nature and characteristics of the factors of production, the law of variable proportion, the law of diminishing return, and the theory of least cost.

Mr. Forster.

Agr. Econ. 404. Farm Organization and Management. 0-3-0

Prerequisite: Econ. 102, Agr. Econ. 261, 362, 403, and 6 additional term credits in Economics.

The extension of the economic principles discussed in Agr. Econ. 403 and the application of these principles to the problems of farm organization and management.

Mr. Forster.

Agr. Econ. 405. Agricultural Finance and Taxation. 0-0-3

Prerequisite: Econ. 103, Agr. Econ. 367, and 6 additional term credits in Economics.

Problems in financing agricultural production and marketing, and methods of taxation as they affect agriculture. A history of the development of financial institutions designed to serve agriculture.

Mr. Leager.

Agr. Econ. 406. Coöperative Marketing Methods and Practices. 0-0-3

Prerequisite: Econ. 103, Agr. Econ. 265, and 6 additional term credits in Economics.

A critical study of the methods and practices used by large agricultural coöperatives.

Mr. Clement.

Agr. Econ. 407. Research Method and Procedure in Agricultural Economics and Rural Sociology. 2-2-2

Prerequisite: Economics 103, 312, and 6 additional term credits in Economics.

A consideration of the research method and procedure now being employed by research workers in the field of Agricultural Economics, including qualitative, quantitative, inductive, and deductive methods of research procedure, choice of projects, planning, and execution of the research project. Mr. Forster and Mr. Smith.

Agr. Econ. 408. National Economic Policies Affecting Agriculture. 0-3-0

Prerequisite: Econ. 103, Agr. Econ. 260, Agr. Econ. 265.

A critical analysis of the various farm relief proposals with special reference to those made to control production, assist in the marketing of farm products and to supply farmers with various kinds of credit.

Mr. Forster.

AGRICULTURAL ECONOMICS—RURAL SOCIOLOGY

Courses for Graduates and Advanced Undergraduates

Rural Soc. 302. Rural Sociology. 0-3-0 or 0-0-3

Prerequisites: Soc. 103 or Econ. 103. Required of juniors in Rural Sociology, seniors in Agricultural Economics, and juniors in certain Education curricula.

The culture, social organization, and social problems of rural people with special reference to Southern rural life and proposed programs of development. Mr. Matthews.

Rural Soc. 303. Farmers' Movements. 0-0-3

Prerequisite: Rural Soc. 302. Required of seniors in Agricultural Economics and Rural Sociology.

The origin, growth, and the present status of such national farmers' organizations and movements as: the Grange, the Farmers' Alliance, the Populist Revolt, the Agricultural Wheel, the Farmers' Union, the Society of the Equity, the Non-Partisan League, the Farm Bureau, the Farm-Labor Union, and the Coöperative Marketing Movement.

Mr. Matthews.

Rural Soc. 304. Rural Social Traits and Attitudes. 0-3-0

Prerequisite: Rural Soc. 302. Required of seniors in Rural Sociology.

The characteristic social traits and attitudes of rural people in relation to rural social organizations and rural institutions. Mr. Matthews.

Rural Soc. 305. Community Organizations.

0-0-3

Prerequisite: Rural Soc. 302. Required of seniors in Rural Sociology and in Agricultural Teaching.

Community organization in North Carolina and other states. Community structure and size, community institutions and service agencies, community disorganization, methods of community organization, leadership and the relation of community organization to State and national agencies.

Mr. Matthews.

Courses for Graduates Only**Rural Soc. 410. Advanced Rural Sociology.**

0-3-3

Prerequisites: Rural Sociology 302, and 6 additional term credits in either Rural Sociology or Agricultural Economics.

Historical forms of rural society; differentiation and mobility of farmer and peasant classes; bodily, vital, mental, and moral characteristics of rural as compared with urban groups; relation of farm people to other social groups; standards and planes of living; rural institutions and culture; national agrarian policy; and a critical review of current research in rural sociology.

Mr. Matthews.

Rural Soc. 412. Research in Agricultural Economics and Rural Sociology.

3-3-3

Research problems in agricultural production, marketing, finance, taxation, population, community organization, family life, standards of living and social attitudes.

Staff.

AGRICULTURAL ENGINEERING**Courses for Undergraduates****Agr. Eng. 130. Farm Equipment.**

3-0-0 or 0-3-0

Required of sophomores in Agriculture.

A study of modern mechanical equipment for the farm.

Mr. Weaver, Mr. Giles.

Agr. Eng. 135.—Terracing and Drainage.

0-0-3

Required of juniors in General Agriculture.

A study of the different methods of disposing of surplus water and the prevention of erosion.

Mr. Weaver.

Agr. Eng. 145.—Farm Buildings.

0-3-0

Required of seniors in General Agriculture. Elective for all juniors and seniors.

A study of the design, construction, and materials used in modern farm buildings.

Mr. Weaver.

Agr. Eng. 147. Farm Conveniences. 0-3-0

Required of seniors in General Agriculture. Elective for all juniors and seniors.

A study of farm water supply systems, electric lighting plants, heating and sewage disposal systems as regards installation, adjustment, and repair.
Mr. Giles.

Agr. Eng. 155. Farm Engines. 0-3-0

Required of juniors in Animal Prod. Elective for all juniors and seniors.

The principle of farm gas engine operation, its application to single and multiple cylinder engines, and the repair and adjustment of engines.
Mr. Giles.

Courses for Advanced Undergraduates**Agr. Eng. 217. Teaching of Farm Shop Work. 3-3-0**

Required of juniors in Agricultural Education.

This course is designed for men intending to teach Vocational Agriculture in the high schools of this State. Methods of presenting the subject matter to students as well as the manipulation of woodworking, forging, soldering, and pipe fitting tools.
Mr. Giles.

Agr. Eng. 218. Agricultural Drawing. 0-3-0

Elective for juniors and seniors.

Drawing-board work covering both freehand sketching and elementary mechanical drawing. Working and pictorial drawing, lettering, maps, graphs, tracing and blueprinting.
Mr. Weaver.

Agr. Eng. 250. Farm Machinery and Tractors. 0-0-3

Prerequisite: Agr. Eng. 155. Elective for juniors and seniors.

A study of the design, construction and operation of modern labor-saving machinery.
Mr. Giles.

Courses for Graduates and Advanced Undergraduates**Agr. Eng. 335. Special Problems in Agricultural Engineering. 3-3-3**

Prerequisite: Agr. Eng. 130, 135, 145, and 155.

This course is designed to meet the needs of students who desire advanced work in one of the following branches of Agricultural Engineering: Gas Engines, Tractors, Lighting Plants, Farm Machinery, and Drainage.
Mr. Giles.

Agr. Eng. 350. Senior Seminar. 1-1-1

Prerequisite: Senior standing in Agricultural Engineering. Elective for seniors.

Students will be assigned special problems the results of which are to be presented to the class.
Mr. Weaver.

Agr. Eng. 360. Erosion Prevention. 0-0-3

Prerequisite: Agr. Eng. 130, 135, and Soils 115. Elective for seniors.

The purpose of this course is to go into the causes, effects, and methods of conserving our greatest national resource—our fertile soil.

Mr. Weaver.

Agr. Eng. 365. Farm Structures. 0-3-0 or 0-0-3

Prerequisite: Agr. Eng. 130, 145, and A. H. 101. Elective for seniors.

An advanced study of modern building methods as applied to farm structures. The use of labor-saving barn equipment and methods of reducing labor to minimum is stressed. The placing of the farm group in relation to topography and farm activities, from the standpoint of economy, appearance, and utility, is an important phase of the course.

Mr. Weaver.

Agr. Eng. 370. Rural Electrification. 0-3-0

Required of seniors in Agricultural Engineering.

A study of problems involved in the distribution, uses and costs of electricity on the farm.

Mr. Weaver.

ANIMAL HUSBANDRY**Courses for Undergraduates****A. H. 101. Animal Nutrition I.** 0-3-0 or 0-0-3

Required of sophomores in Agriculture.

Prerequisite: Chem. 101.

A study of animal nutrition; composition of animal body; digestion; nutrients; feeding standards; calculating rations.

Mr. Ruffner, Mr. Haig.

Courses for Advanced Undergraduates**A. H. 201. Swine Production.** 3-0-0

Required of juniors in Animal Production.

A study of adaptability of swine, with emphasis on feeding, judging, and management.

Mr. Hostetler.

A. H. 202. Animal Breeding. 4-0-0

Elective for juniors and seniors.

A study of breeding and improvement of our domestic animals; a first-hand study of successful breeding establishments and their problems.

Mr. Ruffner.

A. H. 203. Advanced Stock Judging. 0-0-3

Elective for juniors and seniors.

A study of market and show-ring requirements in the selection of horses and mules, beef cattle, dairy cattle, sheep, and swine. Breed characteristics of these animals are studied in detail, and practice judging brings out the relationship of form to function in livestock production.

Mr. Haig.

- A. H. 204. Dairy Cattle and Milk Production.** 3-0-0
Elective for juniors and seniors.
A study of management of dairy cattle for economical milk production, including dairy breed characteristics, adaption, selection, management, feeding, calf raising and dairy barn equipment. Mr. Haig.
- A. H. 205. Sheep Production.** 0-0-3
Elective for juniors and seniors.
A study of the establishment, care, and management of the farm flock. Mr. Foster.
- A. H. 206. Farm Meats I.** 3-0-0 or 0-3-0
Elective for juniors and seniors.
A study of the composition and value of meat, with practice work in slaughtering and cutting. Mr.
- A. H. 207. Farm Meats II.** 0-3-0
Elective for juniors and seniors. Prerequisite: A. H. 206.
Special study and practice in making retail cuts and in curing pork, beef, and lamb. Mr.
- A. H. 208. Dairying.** 3-0-0 or 0-3-0
Required of juniors in Animal Prod.
Elective for students in Agriculture.
Fundamentals of dairy herd management in the production of milk and cream on the farm. The use of the Babcock Tests, buttermaking on the farm, operation of cream separators, constitute the laboratory work. Mr. Haig.
- A. H. 209. Horse and Mule Production.** 3-0-0
Elective for juniors and seniors.
A study of practical methods in production and management of horses and mules for work on farms under southern conditions. Special study of use of home-grown feeds for horses and mules at work or idle. Mr. Haig.
- A. H. 210. History of Breeds.** 0-3-3
Required of juniors in Animal Prod. Elective for students in Agriculture.
A study of types, characteristics, and history of the leading strains and families of the different breeds of animals. Mr. Ruffner, Mr. Haig.
- A. H. 211. Animal Nutrition II.** 3-0-0
Required of juniors in Animal Prod.
Prerequisite: A. H. 101.
A study of all feeding stuffs used in America; laws controlling feeding stuffs; preparation of feeds; home mixed and commercial feeds. Mr. Ruffner, Mr. Haig.

A. H. 212. Creamery Buttermaking. 4-0-0

This course deals with the principles and practices of factory butter-making, from the care of the cream on the farm through the different processes until ready for marketing.
Mr. Clevenger.

A. H. 213. Testing of Milk Products. 0-4-0

Elective for juniors and seniors.

Lectures and laboratory practice on the testing of milk and milk products for butterfat, acidity, adulteration, preservatives, sediment, etc., that are ordinarily used by dairy manufacturing plants or in milk inspection work.
Mr. Clevenger.

A. H. 214. Cheesemaking. 0-0-3

Elective for juniors and seniors.

Lectures and laboratory practice in the making of various soft and hard cheeses usually made on a farm or in a cheese factory.
Mr. Clevenger.

A. H. 215. Dairy Manufacture Practice. 0-3-0

Elective for juniors and seniors.

Lectures and laboratory practice on the business and factory management methods used in dairy plants.
Mr. Clevenger.

A. H. 216. City Milk Supply. 0-0-4

Elective for juniors and seniors.

Lectures and laboratory practice; the phases of the city milk supply from the standpoint of the Milk Inspector and Board of Health; the methods and processes used in a central pasteurizing milk distribution plant and the dairymen supplying milk to same; the raw retail milk distributor and his problems.
Mr. Clevenger.

A. H. 217. Ice Cream Making. 4-0-0

Elective for juniors and seniors.

Standardizing of mixing and freezing of ice cream, sherbets, and other frozen products, and the physical principles involved; types of freezers, flavoring materials, fillers and binders; ice cream standards. The theory and practice of refrigeration and its use in the ice cream plant.
Mr. Clevenger.

A. H. 218. Comparative Anatomy and Physiology of Domestic Animals. 3-0-0

Prerequisite: Zool. 102.

A course dealing with the structure and functions of the animal body. Laboratory, lectures, and recitations.
Mr. Grinnells.

A. H. 219. Common Diseases. 0-3-0

Prerequisite: A. H. 218.

A study of contagious, non-contagious, and parasitic diseases of farm animals. Laboratory, lectures, recitations. Mr. Grinnells.

A. H. 220. Senior Seminar. 1-1-1

Required of seniors in A. H.

Prerequisite: A. H. 101.

A discussion of livestock problems by extension and research workers, together with special assignments to students with regard to various phases of the industry. Animal Husbandry Staff.

A. H. 221. Animal Hygiene and Sanitation. 0-0-3

Prerequisite: A. H. 219, Bot. 203.

Animal health and prevention of disease as affected by environment. Lectures, reference reading, recitations. Mr. Grinnells.

A. H. 222. Dairy Machinery. 0-1-0

Elective for juniors and seniors.

Lecture and demonstration on the installation, kind, care, and handling of dairy plant equipment, including the refrigerating unit, pipe fitting, soldering, etc. Mr. Clevenger.

A. H. 223. Dairy Products Judging. 0-0-1

Elective for juniors and seniors.

A course of training for students in judging all dairy products according to official standards and commercial grades. Mr. Clevenger.

A. H. 224. Beef Cattle Production. 0-3-0

Elective for juniors and seniors.

A study of the feeding, care, and adaption of beef cattle to North Carolina conditions. Mr. Foster.

Courses for Graduates and Advanced Undergraduates**A. H. 301. Dairy Manufactures. 3-3-3**

Prerequisite: A. H. 101, and 12 hours of the dairy manufacturing courses.

Special problems dealing with the manufacture and marketing of dairy products. Mr. Clevenger.

A. H. 302. Animal Nutrition III. 0-3-0

Elective for seniors. Prerequisite: A. H. 101, A. H. 211.

A study of the chemistry and physiology of nutrition and the processes of animal life; recent scientific publications are studied. Mr. Ruffner.

A. H. 304. Herd Improvement.

0-0-3

Prerequisite: A. H. 101, 208, 211. Elective for juniors and seniors.

This course is designed for training students as supervisors of Herd Improvement Associations in North Carolina. Rules for Advanced Registry are studied, and practical work in keeping feed costs, the Babcock Test, and bookkeeping necessary for dairy associations. Mr. Haig.

A. H. 307. Problems in Advanced Animal Breeding. 3-0-0, 0-3-0, 0-0-3

Prerequisite: A. H. 202.

A study of the physiology of reproduction. Methods and problems of breeders; influence of pedigree, herd books, and Mendelism in animal breeding. Mr. Ruffner.

A. H. 308. Stock Farm Management.

0-0-3

Prerequisite: A. H. 101. Elective for juniors and seniors.

A study of successful methods of operating farms devoted chiefly to livestock production; special reference is made to best systems applied to North Carolina conditions. Mr. Ruffner.

A. H. 309. Home Tanning.

3-0-0 or 0-3-0

Elective for juniors and seniors. Prerequisite: A. H. 206.

Application of different methods in curing and tanning hides and pelts. Mr.

A. H. 310. Pure-bred Livestock Production.

0-3-0

Elective for seniors and graduate students. Prerequisite: A. H. 101, 201.

A study of the pure-bred livestock industry. Lectures and discussion supplemented by assignments from current periodicals and breed papers. Special study of the selection of livestock best suited to different localities.

Mr. Ruffner.

Courses for Graduates Only**A. H. 402. Research Studies in Animal Husbandry.** 3-0-0, 0-3-0, or 0-0-3

Prerequisite: Eighteen credits in Animal Husbandry.

An intensive study of experimental data.

Staff.

A. H. 404. Advanced Nutrition.

3-0-0, 0-3-0, or 0-0-3

Prerequisite: A. H. 101, 211.

A survey of experimental feeding, together with a study of the fundamental and practical feeding problems of the various sections of the country. A study is made of the effects of various feeds on growth and development. Animals are used in demonstrating the effects of these various nutrients and rations.

Mr. Ruffner.

A. H. 408. Special Problems in Dairy Manufacturing Practice. 3-3-3
Prerequisite: Eighteen term credits in Dairy Manufacturing.

Available for graduate students interested in special dairy manufacturing problems under definite supervision and approval.

Mr. Clevenger.

A. H. 409. Seminar. 1-1-1

Members of the seminar will be assigned subjects which will be reviewed and discussed. Review of literature, scientific reports and Experiment Station bulletins. Oral and written reports.

Animal Husbandry Staff.

ARCHITECTURAL ENGINEERING

Courses for Undergraduates

Arch. 100. Introduction to Architecture. 3-0-0

Required of sophomores in Arch. and L. A. Prerequisite: M. E. 105, 106. Exercises and studies of architectural elements and details, walls, openings, etc. Turner, *Fundamentals of Architectural Design*.

Mr. Shumaker, Mr. Edwards.

Arch. 101. Elements of Architecture. 0-3-3

Required of sophomores in Arch. and L. A. Prerequisite: M. E. 105, 106, 107. A study of the orders of Architecture and their application to simple problems in composition and design. Turner, *Fundamentals of Architectural Design*; Ramsey and Sleeper, *Graphic Standards*.

Mr. Shumaker, Mr. Edwards.

Arch. 102. Shades and Shadows. 2-0-0

Required of sophomores in Arch. and juniors in L. A. Prerequisite: M. E. 107.

The determination of conventional shades and shadows as they occur on rendered drawings. Buck, Ronan and Oman. *Shades and Shadows*.

Mr. Shumaker.

Arch. 103. Elementary Rendering. 1-0-0

Required of sophomores in Arch. and juniors in L. A.

The use of various media with special regard for the technique useful for architectural rendering. Paulson, *Problem Sheets*.

Mr. Edwards.

Arch. 104. Freehand Drawing I, Pen and Pencil Drawing. 2-0-0

Required of juniors in Arch. and L. A.

Sketching in pencil and pen and ink from models, cast and nature. Emphasis on quality of line and proportion. Lettering. Watson, *Pencil Sketching*.

Mr. Edwards.

- Arch. 105. Freehand Drawing II, Water Color.** 0-2-0
 Required of juniors in Arch.
 The drawing and rendering in water color of subjects in architecture and nature. The development of good technique. Guptill, *Reference to Color*.
 Mr. Edwards.
- Arch. 106. Freehand Drawing III. Charcoal Drawing.** 0-0-2
 Required of juniors in Arch. and L. A.
 Charcoal drawing from simple architectural casts and models. Edwards, *Problem Sheets*.
 Mr. Edwards.
- Arch. 107. Pencil Sketching.** 3-0-0, 0-3-0, 0-0-3
 Required of seniors in L. A.
 Elective for Engineering and Textile students.
 Quick sketching of objects as seen and imagined in perspective. Elementary principle of perspective, especially as applied to the visualization of imagined objects. *Mimeographed Notes and Problem Sheets*.
 Mr. Paulson.
- Arch. 108. Art Principles in Industry.** 3-0-0
 Elective for Engineering and Textile students.
 Line, form, color and æsthetic principles of practical art applicable to the design of articles for manufacture. *Mimeographed Notes*.
 Mr. Paulson.
- Arch. 109. Decorative Drawing.** 3-0-0, 0-3-0, 0-0-3
 Required of juniors in the Textile School.
 Freehand drawing and creative designing of decorative motives adaptable to weaving and cloth printing. *Mimeographed Problem Sheets*.
 Mr. Paulson.
- Arch. 111. Architectural Details.** 0-0-2
 Required of juniors in Arch. and Const. Eng. Prerequisite: M. E. 105, 106, 107.
 The preparation of working drawings of sections and details of construction. Ramsey and Sleeper, *Graphic Standards*; Knoblock, *Good Practice in Construction*.
 Mr. Shumaker, Mr. Edwards.
- Arch. 112. Practical Photography.** 0-0-1
 Required of juniors in Arch.
 The practical use of photography as an aid in architectural rendition. *Lectures, Notes, and Assignments*.
 Mr. Paulson.

Courses for Advanced Undergraduates

- Arch. 201. Perspective Drawing.** 0-2-0
 Required of juniors in Arch. and L. A. Prerequisite: Arch. 102.
 Study of the theory of perspective with special applications to illustration and design. Lectures and drawing. *Turner, Fundamentals of Architectural Design.* Mr. Shumaker.
- Arch. 202. Architectural Design I.** 3-3-3
 Required of juniors in Arch. Prerequisite: Arch. 101.
 Problems in elementary composition, design, planning and rendering. Library research. Registration with the Beaux-Arts Institute of Design may be required. *Beaux-Arts Institute Problems.* Mr. Shumaker, Mr. Edwards.
- Arch. 203. Advanced Rendering.** 1-1-1
 Required of seniors in Arch. Prerequisite: Arch. 103.
 Study of different methods of presentation. Problems in rendering various types of composition and media; water color, tempera, pastels, charcoal, pencil, pen. and ink. *Problem Sheets.* Mr. Edwards.
- Arch. 204. Architectural Design II.** 3-3-3
 Required of seniors in Arch. Prerequisite: Arch. 202.
 Major problems in advanced planning and research. Registration with the Beaux-Arts Institute of Design may be required. *Beaux-Arts Institute Problems.* Mr. Shumaker, Mr. Edwards.
- Arch. 205. History of Architecture.** 3-3-0
 Required of juniors in Arch. and L. A. Prerequisite: Arch. 202.
 Origin and development of the historic styles of Architecture, from antiquity to modern times. Lectures. Library research with sketches. Fletcher, *History of Architecture*; Hamlin, *History of Architecture.* Mr. Shumaker.
- Arch. 206. History of Ornament.** 0-0-3
 Required of juniors in Arch. Prerequisite: Arch. 205.
 Analysis and development of the historic styles of ornament. Hamlin, *History of Ornament.* Mr. Shumaker, Mr. Paulson.
- Arch. 207. History of the Decorative Arts.** 3-0-0 or 0-3-0
 Elective for students of junior standing. Prerequisite: Arch. 205, or 209.
 Lectures and library research on the history of the decorative arts, including interior architecture, furniture, stained glass, etc. McClure, E. *Period Furniture.* Mr. Shumaker.

Arch. 208. Appreciation of Fine Arts. 3-0-0, 0-3-0, 0-0-3, or 3-3-3
Elective for students of junior standing.

Principles of art. Study of those qualities which constitute great art. First term, architecture; second term, painting; third term, sculpture and the minor arts. Reinach, *Apollo*; *University Prints*; *Mimeographed Notes*.
Mr. Paulson.

Arch. 209. Domestic Architecture. 0-2-0
Required of seniors in Arch.

Planning and designing of residences. Construction, orientation, equipment, and finishing. Edwards, *Problem Sheets*.
Mr. Shumaker, Mr. Edwards.

Arch. 210. Architectural Office Practice. 2-2-2
Required of seniors in Arch. Prerequisite: Arch. 111.

The preparation of working drawings from sketches, following office routine. Knoblock, *Good Practice in Construction*; Ramsey and Sleeper, *Graphic Standards*.
Mr. Shumaker, Mr. Edwards.

Arch. 211. Architectural Composition. 2-0-0
Required of seniors in Arch. Prerequisite: Arch. 205.

Principles of planning and composition as related to buildings. Architectural motives, group planning. Library research and sketches. Curtis, *Architectural Composition*.
Mr. Shumaker.

Arch. 212. Architectural Estimates. 0-0-2
Required of seniors in Arch. Prerequisite: Arch. 111.

Lectures and problems in taking off quantities and in estimating materials and labor cost in building construction. *Mimeographed Notes*.
Mr. Shumaker.

Arch. 213. Historic Motives in Textiles. 3-0-0
Elective for students of junior standing.

Chronologic development of ornament motives, and the adaptation of historic motives to modern textile design. Hamlin, *History of Ornament*.
Mr. Paulson.

Arch. 214. Art Appreciation for Teachers. 0-0-3

Picture study of the list suggested by the State Board of Education for grade school use, including paintings, architecture, and sculpture. Paulson, *Art Appreciation for Teachers*.
Mr. Paulson.

Arch. 215. Building Materials. 0-3-3
Elective for students of junior standing.

A study of all forms of building materials and methods of application in modern structures, both interior and exterior. Edwards, *Manufacturers' Data Sheets*.
Mr. Edwards.

Arch. 216. Architectural Drawing.

0-0-3

Required of seniors in Constr. Engr. Prerequisite: C. E. 211.

Introduction to methods generally employed in architectural offices. Lectures and drawing. Purpose: to give the student sufficient training that he may read and interpret working drawings. Ramsey and Sleeper, *Graphic Standards*; N. C. State Building Code. Mr. Edwards.

Courses for Graduates and Advanced Undergraduates**Arch. 301. Architectural Design III.**

4-4-4

Prerequisite: Arch. 204.

Class A.—Project. Advanced problems in design. Archæology. Measured Drawings. Registration with the Beaux-Arts Institute of Design is required. *Beaux-Arts Institute Problems*.

Mr. Shumaker, Mr. Edwards.

Arch. 401. Historic Research.

4-4-4

Prerequisite: Arch. 204, 205.

Research in Architecture and Art in some important phase of its development. Library work with sketches. *Library References*.

Mr. Paulson, Mr. Edwards.

BOTANY**Courses for Undergraduates****Bot. 101, 102. General Botany.**

4-4-0

Required of freshmen and sophomores in Agriculture.

The first term deals with the nature of the higher (crop type) plants; the second involves a survey of the major lower plant groups with the emphasis upon the economic forms (bacteria and fungi).

Mr. Wells, Mr. Shunk, Mr. Anderson, Mr. Whitford, Mr. Buell.

Courses for Advanced Undergraduates**Bot. 201. Diseases of Field Crops.**

3-0-0

Elective for juniors and seniors. Prerequisite: Bot. 101, 102, 209.

A study of the more important diseases of field crops, such as cotton, tobacco, corn, small grains, legumes and grasses. Major emphasis is placed on symptoms, cause, and control. Mr. Lehman.

Bot. 202. Diseases of Fruit and Vegetable Crops.

0-0-3

Elective for juniors and seniors. Prerequisite: Bot. 101, 102, 209.

Lectures and laboratory studies of importance, causes, symptoms and control of diseases affecting these crops. Mr. Poole.

Bot. 203. General Bacteriology.

0-4-0

Prerequisite: Bot. 101, 102, or Zool. 101.

An introduction to the principles of bacteriology. Laboratory work on modern cultural methods of handling and studying bacteria.

Mr. Shunk.

Bot. 204. Systematic Botany.

0-0-3

Elective in Agriculture and Science. Prerequisite: Bot. 101, 102.

An introduction to the local flora and the classification of the plants included therein.

Mr. Wells, Mr. Shunk, Mr. Whitford, Mr. Buell.

Bot. 205. Plant Microtechnique.

3-0-0

Elective in Agriculture and Science. Prerequisite: Bot. 101, 102.

Materials and processes involved in the preparation of plant structures for microscopic examination.

Mr. Anderson.

Bot. 206. Rural Sanitation.

0-3-0

A combination course on the relation of bacteria and insects to rural public health; meat and other food and water inspection; health laws.

Mr. Shunk, Mr. Grinnells, Mr. Weaver.

Bot. 207. Dendrology.

3-0-3

Required of sophomores in Forestry. Prerequisite: Bot. 101, 102, 204.

Introduction to the trees of the eastern United States.

Messrs. Wells, Shunk, Buell.

Bot. 208. Diseases of Forest Trees.

3-0-0

Required of seniors in Forestry. Prerequisite: Bot. 101, 102, 209.

Lectures and laboratory studies of importance, causes, symptoms and control of diseases affecting trees and their products.

Mr. Poole.

Bot. 209. Plant Physiology.

0-0-5

Required of sophomores in Forestry. Prerequisite: Bot. 101, 102.

A study of the activities of living plants with special emphasis upon the fundamental principles concerned.

Mr. Anderson.

Bot. 210. Aquatic Biology.

0-0-2

Required of Sanitary Engineers. Elective in Agriculture and Science. Prerequisite: Bot. 101, 102.

Identification and control of the aquatic algæ and protozoa which give trouble in reservoirs. A survey of the higher water and marsh plants is also included.

Mr. Whitford.

Courses for Graduates and Advanced Undergraduates

Bot. 301. Advanced Plant Pathology. 5 or 5 or 5

Elective. Prerequisite: Bot. 101, 102, 201, 209, or 202.

A course designed to give the student training in those methods of investigation which are most useful in the study of plant pathological problems.

Mr. Lehman.

Bot. 302. Advanced Bacteriology. 0-3-0

Prerequisite: Bot. 101, 102, 203, 209.

A study of the methods used in the bacteriological analysis of water and milk.

Mr. Shunk.

Bot. 303 and 304. Plant Morphology. 3-3-0

Elective in Agriculture and Science. Prerequisite: Bot. 101, 102, 204.

An advanced survey of plants; the lower groups are given the first term, the higher (land plants) the second.

Mr. Wells, Mr. Shunk.

Bot. 305 Mycology. 3-3-3

Prerequisite: Bot. 101, 102.

A course dealing with the structure, identification and classification of fungi. Special attention is given to species parasitic on crop plants.

Mr. Lehman.

Bot. 306. Advanced Plant Physiology. 0-3-0

Prerequisite: Bot. 101, 102, 209.

A critical and comprehensive treatment of the various aspects of plant physiology. Particular attention is given to basic principles and to recent developments.

Mr. Anderson.

Bot. 307. Plant Ecology. 3-0-0

Elective in Agriculture and Science. Prerequisite: Bot. 101, 102, 209.

Environmental control of plant distribution with emphasis upon the habitats and vegetations of North Carolina.

Mr. Wells.

Bot. 308. Microanalysis of Plant Tissue. 0-3-0

Prerequisite: Bot. 101, 102, 209.

The identification in plant tissue of mineral elements and organic compounds and the physiological significance of these materials.

Mr. Anderson.

Bot. 309. Soil Microbiology. 0-0-3

Elective in Agriculture and Science. Prerequisite: Bot. 101, 102, 203, 209.

A study of the more important microbiological processes that occur in soils: decomposition of organic materials, ammonification, nitrification and nitrogen fixation.

Mr. Shunk.

Bot. 310. Advanced Plant Ecology.

0-0-3

Elective in Agriculture and Science. Prerequisite: Bot. 209, 307.

Practice in the use of the instruments necessary in the study of environmental factors. Advanced readings and conferences on plant distribution in relation to these factors.

Mr. Wells.

Bot. 311. Advanced Systematic Botany.

0-0-3

Prerequisite: Bot. 101, 102, 204.

A continuation of the elementary course (204) in the identification of the local flora plants together with a survey of the plant families from the modern phylogenetic point of view.

Mr. Wells, Mr. Buell.

Courses for Graduates Only**Bot. 401. Pathology of Special Crops.**

3-3-3

Prerequisite: Bot. 201 or 203, 301.

A comprehensive study of the etiology, symptoms, and control of specific diseases.

Mr. Lehman or Mr. Poole.

Bot. 402. Bacteriology: Special Studies.

3-3-3

Prerequisite: Bot. 203, 302.

Special work on restricted groups of bacteria such as nitrogen bacteria of the soil, milk organisms and special groups of bacteria in water.

Mr. Shunk.

Bot. 403. Systematic Botany.

3-0-0 or 0-0-3

Prerequisite: Bot. 204, 303, 304.

An advanced survey of restricted groups of plants involving organization and distribution problems.

Mr. Wells.

Bot. 404. Plant Physiology.

3-3-3

Prerequisite: Bot. 306, 209.

Critical study of some particular problem, involving original investigation together with a survey of pertinent literature.

Mr. Anderson.

Bot. 405. Plant Ecology.

3-0-0 or 0-0-3

Prerequisite: Bot. 204, 307.

Minor investigations in vegetation-habitat problems accompanied by advanced reference reading.

Mr. Wells.

Bot. 406. Research in Botany.

3-3-3

Prerequisite: 30 hours 100-300 courses in Botany.

Staff.

Bot. 407. Seminar.

1-1-1

Attendance by the student upon the weekly seminar together with the presentation of a paper in his major field of research.

Mr. Wells.

CERAMIC ENGINEERING**Courses for Undergraduates****Cer. E. 103. Ceramic Materials.**

0-3-0

Required of sophomores in Ceramic Engineering.

Prerequisite: Geol. 201.

The origin and occurrence of ceramic raw materials, their chemical and physical properties and systems of measuring them. Ries, *Clays, Occurrence, Properties and Uses*.
Mr. Greaves-Walker.

Cer. E. 104. Ceramic and Mining Processes.

0-0-3

Required of sophomores in Cer. E. and Geol. E. Prerequisite: Geol. 201.

The winning and preparation of ceramic materials and the equipment and processes used in manufacturing ceramic products. Garve, *Factory Design and Equipment*.
Mr. Greaves-Walker.

Courses for Advanced Undergraduates**Cer. E. 207. Silicate Bodies and Glasses.**

3-0-0

Required of seniors in Cer. E. Prerequisite: Chem. 231, Cer. E. 209, and Geol. 238.

Lectures on composition and production of ceramic bodies, glazes, glasses, and colors. Problems. Greaves-Walker and Wills, *Bodies, Glazes and Colors*.
Mr. Stone.

Cer. E. 208. Drying Fundamentals and Practice.

3-0-0

Required of juniors in Cer. E. Prerequisite: Cer. E. 103.

The theory and practice of drying ceramic products. Problems. Greaves-Walker, *Drying Ceramic Products*.
Mr. Greaves-Walker.

Cer. E. 209. Ceramic Calculations.

0-0-3

Required of juniors in Cer. E. Prerequisite: Chem. 212, Cer. E. 103, 208, 213. Solution of chemical and physical problems of the ceramic industries. Andrews, *Ceramic Tests and Calculations*.
Mr. Stone.

Cer. E. 210. Metal Enamels.

0-3-0

Required of seniors in Cer. E. Prerequisite: Chem. 212, Cer. E. 209.

Theory and practice of the application of enamels to metals. Andrews, *Enamels*.
Mr. Stone.

Cer. E. 212. Ceramic Products.

0-0-3

Required of juniors in Cer. E. Prerequisite: Cer. E. 104.

A study of the physical, chemical, and artistic requirement of ceramic products. Laboratory practice. Mr. Greaves-Walker, Mr. Stone.

Cer. E. 213. Firing Fundamentals and Practice. 0-3-0

Required of juniors in Cer. E. Prerequisite: Cer. E. 103 and 208.

The theory and practice of firing ceramic products. Problems. Wilson,
Ceramics, Clay Technology. Mr. Greaves-Walker.

Cer. E. 214. Pyrometry. 1-0-0

Required of seniors in Cer. E. Prerequisite: Cer. E. 213.

The theory and use of temperature measuring instruments in industry.
Wood and Cork, *Pyrometry.* Mr. Stone.

Courses for Graduates and Advanced Undergraduates**Cer. E. 300. Ceramic Laboratory.** 3-3-3

Required of seniors in Cer. E. Prerequisite: Cer. E. 207, 208, 209, 212,
and 213.

Advanced practice in producing and determining the chemical and physical
properties of ceramic materials and products.

Mr. Greaves-Walker and Mr. Stone.

Cer. E. 301. Refractories. 0-0-3

Required of seniors in Cer. E. and Geol. E. Prerequisite: Chem. 212, Geol.
238, Cer. E. 103.

Refractory materials and manufacture of refractory products.

Use of refractory products in industrial furnaces. Norton, *Refractories.*
Mr. Greaves-Walker.

Cer. E. 302. Advanced Silicate Technology. 3-3-3

Prerequisite: Cer. E. 207.

Advanced laboratory practice in bodies, glazes, glasses, and colors.

Mr. Stone.

Cer. E. 303. Ceramic Designing. 0-4-4

Required of seniors in Cer. E. Prerequisite: M. E. 112, Cer. E. 104, 208,
209, and 213.

Designing of ceramic equipment and structures. Garve, *Factory Design
and Equipment.* Mr. Greaves-Walker.

Courses for Graduates Only**Cer. E. 400. Designing of Ceramic Equipment and Plants.** 3-3-3

Prerequisite: Cer. E. 303.

Advanced study and designing of ceramic machinery, dryers, kilns, and
plant structures. Mr. Greaves-Walker.

Cer. E. 401. Advanced Refractories and Furnaces. 3-3-3

Prerequisite: Cer. E. 301.

Advanced study of refractory materials and products and their use.

Mr. Greaves-Walker.

Cer. E. 402. Industrial Adaptability of Ceramic Materials. 3-3-3

Prerequisite: Cer. E. 300.

Laboratory investigations to determine the industrial uses to which various North Carolina ceramic materials can be put.

Mr. Greaves-Walker, Mr. Stone.

Cer. E. 403. Ceramic Research. 3-3-3

Prerequisite: Cer. E. 300.

Research problems in ceramics will be assigned to meet the desire of the student for specialization.

Mr. Greaves-Walker, Mr. Stone.

Cer. E. 404. Glass Technology. 3-3-3

Prerequisite: Chem. 231, Geol. 23S, Cer. E. 209, 210, 301.

Advanced study of the manufacture and physical properties of glass.

Mr. Greaves-Walker.

CHEMICAL ENGINEERING

Courses for Undergraduates

Chem. E. 101. Introduction to Chemical Engineering. 1-1-1

Required of sophomores in Chem. E. Prerequisite or concurrent: Math. 201, M. E. 102, M. E. 104.

Reactions in chemical processes, illustrative problems, and control methods; elements of unit processes and unit operation; plant visits. Randolph, *Chemical Engineering Practice*.

Mr. Randolph.

Courses for Advanced Undergraduates

Chem. E. 201. Chemical Engineering I—Technology. 3-3-3

Required of juniors in Chem. E. and of seniors in Textile Chemistry and Dyeing. Prerequisite: Chem. E. 101 or Tex. 212.

Unit processes, inorganic and organic technology; industrial chemistry; equipment, materials, methods, and processes employed in chemical manufacture; water, fuels, and power, studied on the quantitative and mathematical basis; conversion of raw materials into such necessary products as sugar, paper, gas, paint, leather, glass; by-products and waste products. Riegel, *Industrial Chemistry*.

Mr. Lauer, Mr. Lindsay.

Chem. E. 202. Chemical Engineering Laboratory I. 1-1-1

Required of juniors in Chem. E. Prerequisite or concurrent: Chem. E. 201.

A laboratory study of industrial control methods; industrial plant visits; problems and processes solved and presented in technical reports; preparation of products on pilot plant scale; costs studies. *Notes*.

Mr. Lauer, Mr. Lindsay.

Chem. E. 208. Treatment of Water and Sewage. 3-0-0 or 0-0-3

Required of juniors in San. E. Prerequisite: Ch. E. 201 or C. E. 104.

Principles involved in the control of municipal water supplies and in sewage treatment; reactions involved; chemical nature of water and sewage treatment; methods for removal of the more objectionable materials in industrial waters. *Notes.* Mr. Randolph, Mr. Van Note.

Chem. E. 210. Industrial Stoichiometry. 3-0-0 or 0-3-0 or 0-0-3

Required of juniors in Chemical Engineering. Prerequisite or concurrent: Chem. E. 201.

Industrial calculations and measurements; heat balances; material balances; fuels and combustion processes; principles of chemical engineering calculations. Lewis and Radasch, *Industrial Stoichiometry.*

Mr. Lauer.

Courses for Graduates and Advanced Undergraduates**Chem. E. 300. Principles of Chemical Engineering.** 3-3-3

Required of seniors in Chem. E. Prerequisite or concurrent: Chem. E. 201, Chem. E. 210, Math. 201.

Survey of field of Chemical Engineering; control in industrial manufacture; unit operations; flow of fluids and of heat; equipment for and principles involved in such operations as crushing and grinding, separation, evaporation, distillation, filtration; humidification; drying, absorption, and extraction; chemical engineering calculations; design and efficiency of chemical machinery. Walker, Lewis, McAdams and Gilliland, *Principles of Chemical Engineering*; Badger and McCabe, *Elements of Chemical Engineering.*

Mr. Wicker, Mr. Randolph.

Chem. E. 301. Electrochemical Engineering. 3-3-3 or 0-0-3

Required of seniors in Chem. E. Prerequisite or concurrent: Chem. E. 201.

Theory and practice of electrochemical industries; principles of electrolysis and other electrochemical processes; electric furnace; electro-thermal operations, electrometallurgy. Mantell, *Industrial Electrochemistry.*

Mr. Randolph, Mr. Van Note, Mr. Lauer, Mr. Lindsay.

Chem. E. 302. Industrial Oils, Fats and Waxes. 0-0-3 or 3-0-0

Elective for juniors or seniors in Chem. E.

Prerequisite: Chem. E. 201.

Commercial practice in the manufacture, refining, and conversion of animal and vegetable oils and their by-products; analyses, tests, and methods of preparation for foods and feeds; drying, semi-drying, and essential oils; industrial fats and waxes. Technical study of petroleum refining and products; lubricants.

Mr. Lauer.

Chem. E. 303. Gas Engineering.

0-0-3 or 3-3-3

Elective for seniors or graduates in Chem. E.

Prerequisite: Chem. E. 201.

A gas engineering course; manufacture of industrial fuels gases and their distribution; advances made in the industry; apparatus and equipment; plant design; general practice in gas plants; application and use of gas and the by-products of its manufacture; pipe lines, service connections, gas meters.

Mr. Randolph.

Chem. E. 304. Sanitation Processes.

0-0-3

Prerequisite: Chem. E. 201.

Technical study of the methods of sanitation in industrial plants; equipment and practice in the disposal and treatment of waste materials and sewage; measures necessary in eliminating occupational disease hazards.

Notes.

Mr. Randolph, Mr. Lauer.

Chem. E. 305. Industrial Application of Physical Chemistry.

Prerequisite: Chem. E. 207, 201.

3-3-3 or 0-3-3

Special phases of physical chemistry studied technically with reference to the practical application of these principles in the chemical industries such as industrial catalysis, evaporation principles, absorption, equilibrium, applications of phase rule, physical metallurgy, colloids. *Notes.*

Mr. Van Note.

Chem. E. 306. Fuel and Combustion Engineering.

3-3-3

Prerequisite: Chem. E. 300.

Fundamental principles and mechanism of the combustion reactions; quantitative application to problems of design or use of equipment for fuel processing and utilization; and a thorough study of solid, liquid, and gaseous fuels, with complete methods of analysis. Haslam and Russel. *Fuels and Their Combustion.*

Mr. Lindsay, Mr. Randolph.

Chem. E. 307. Chemical Engineering Laboratory and Design II.

2-2-2

Required of seniors in Chem. E. Prerequisite or concurrent: Chem. E. 300.

A laboratory study of measurement of flow of fluids and heat; crushing and grinding, distillation; evaporation; drying; humidity; filtration and mechanical separation; absorption, and extraction, calculations, design and construction of equipment for these fundamental unit operations in chemical industry.

Mr. Wicker, Mr. Lindsay, Mr. Randolph.

Chem. E. 308. Chemical Engineering Design.

3-3-3

Prerequisite or Concurrent: Chem. E. 300.

Location, layout, and complete design of the chemical plant and its process equipment. Materials of construction. Economic factors controlling the chemical industry, and optimum design from the standpoint of economic return, process development, pilot plant production studies. *Notes.*

Mr. Lindsay.

Chem. E. 309. Chemical Engineering Thermodynamics. 3-3-3

Prerequisite or concurrent: Chem. E. 300.

A study of the thermal properties of matter and energy relationships underlying chemical processes. A thorough consideration of fundamental laws of energy as applied to Chemical Engineering problems and processes in industry. Mr. Wicker.

Chem. E. 310. Cellulose and Allied Industries. 3-3-0 or 3-3-3

Required of seniors in Forestry. Prerequisite or concurrent: Chem. E. 201 or Forestry 206, 207.

Cellulose and its compounds; forest raw material for chemical industries; methods and processes; control conditions; machinery; equipment; water requirements; processes for manufacture of paper; rayon; tannin; tar; pitch; turpentine; creosote; wood alcohol; acetic acid; acetone; rubber, and cellulose conversion products; distillation, and extract industries. *Notes.*

Mr. Lauer, Mr. Wicker.

Chem. E. 311. Corrosion: Causes and Prevention. 3-3-3

Prerequisite: Chem. E. 201.

Theories of corrosion; influences of metal composition and methods of manufacture; external influences; corrosion testing; preventive measures against atmospheric, underground, underwater, closed water system, chemical corrosion. Good practices; comparison of corrosive resisting materials; suitability of materials for corrosion resistance in various chemical and industrial uses. Speller, *Corrosion; Causes and Prevention.*

Mr. Van Note.

Chem. E. 315. Water Treatment. 3-0-0 or 0-3-0 or 0-0-3

Required of seniors in Chem. E. Prerequisite: Chem. E. 201.

Supplies of water; filter plant machinery, equipment and practice; water purification and softening; types of filters; requirements of waters for municipal and manufacturing purposes; water analysis; research on water purification and industrial waste treatment. *Notes.*

Mr. Randolph, Mr. Van Note.

Chem. E. 316, 317, 318. Chemistry of Engineering Materials. 3-3-3 or 0-3-0

Required of seniors in Chem. E. Prerequisite: Chem. E. 201, M. E. 102 and 219, and Math. 201.

Technical study of engineering materials, suitable materials for manufacturing plants, machines, and special uses; corrosion and chemical action; paints and protective coatings; metallurgy; strength, toughness, and elasticity of metals; chemical, metallographic, and microphotographic examination of metals and alloys, and other materials; fire assaying. Leighou, *Chemistry of Engineering Materials.*

Mr. Randolph, Mr. Van Note.

Chem. E. 319. Chemical Principles.

0-3-3 or 3-3-3

Prerequisite or concurrent: Chem. E. 201.

Fundamental principles in chemical manufacture and correlation of these principles in unit processes and operation. Hougen and Watson, *Industrial Chemical Calculations. Notes.* Mr. Van Note.

Chem. E. 320. Metals and Alloys.

3-3-3

Elective for seniors. Prerequisite: Chem. E. 201 and 205 or M. E. 131.

Metals and alloys studied through chemical, thermal, microscopic, and X-ray analysis; intermetallic compounds, solid solutions, eutectics; internal mechanisms and their effect in ageing, heat treating, mechanical working; modern physical metallurgical problems and practices. Doan, *Principles of Physical Metallurgy.* Mr. Van Note.

Courses for Graduates Only**Chem. E. 401. Chemical Technology—Advanced.**

3-3-3

Prerequisite: Chem. E. 300.

An advanced course in problems, processes, and methods of chemical manufacture and production; special problems of local manufacturing plants worked out under plant conditions; optimum production conditions; special study in applied inorganic, applied organic chemistry, and research in applied chemistry. Mr. Randolph, Mr. Lauer.

Chem. E. 402. Industrial Chemical Research.

3-3-3

Prerequisite: Chem. E. 201.

Chemical research on some industrial problem relating to North Carolina resources; practice in industrial plants, control analyses, estimate of losses, costs, data sheets, technical report. Staff.

Chem. E. 403. Chemical Engineering Research.

3-3-3

Prerequisite: Chem. E. 300.

Some plant problem studied exhaustively by making investigations at the chemical plant, and by supplementary experiments and research in the laboratory; measurements, tabulation, graphs, and calculation of some actual plant problem. Staff.

Chem. E. 404. Advanced Chemical Engineering.

3-3-3

Prerequisite: Chem. E. 300, Chem. E. 307.

Advanced study of process equipment, theory and practice in operation and design for the unit operations, evaporation, distillation, absorption, filtration, drying, crystallization, and air conditioning; Chemical Engineering thermodynamics; coefficients of heat transfer; heat of reactions; evaporators; stills; condensers, and heat exchangers; interrelationships between heat transfer and fluid friction. McAdam, *Heat Transmission.*

Mr. Wicker, Mr. Randolph.

CHEMISTRY**Courses for Undergraduates****Chem. 101, 103, and 105. General Inorganic Chemistry. 4-4-4**

Recitations and laboratory work; theories and laws, history, occurrence, preparation, properties, and uses of the more important elements and their compounds; formulæ, valence, equations and calculations.

Messrs. Caveness, Reid, Jones, Jordan, Satterfield, Singer, Showalter, Sutton, Wilson, and Williams.

Chem. 109. Chemical Calculations. 0-3-0 or 0-0-3

Prerequisite: Chem. 101, 103, 105.

Chemical problems, especially in analytical work. Lectures are given in principles, theories, laws, etc., upon which the problems are based; assigned problems for discussion.

Mr. Caveness.

Chem. 211. Qualitative Analysis. 4-0-0

Required of sophomores in Ceramic, Chemical, and Mining Engineering and those majoring in chemistry and of sophomores in Textile Chemistry and Dyeing.

Prerequisite: Chem. 101, 103, 105.

Chemical analysis: identification and separation of more common ions and analysis of mixtures of salts and of commercial products.

Messrs. Wilson, Caveness, Reid.

Chem. 212. Quantitative Analysis. 0-4-0

Required of sophomores in Ceramic Engineering, Chemistry, Chemical Engineering, and Textile Chemistry and Dyeing.

Prerequisite: Chem. 211.

Volumetric methods of analysis, including alkalimetry, acidimetry, oxidation, and reduction methods.

Messrs. Wilson, Caveness, Reid.

Chem. 213. Quantitative Analysis. 0-0-4

Required of sophomores in Chemical Engineering and those majoring in Chemistry. Prerequisite: Chem. 211.

A continuation of Chem. 212. Gravimetric methods. Substances of more difficult nature are analyzed, as minerals, steel, alloys, limestone, Paris green, etc.

Messrs. Wilson, Caveness, Reid.

Chem. 214. Quantitative Analysis. 0-0-4

Required of students in Textile Chemistry and Dyeing.

A continuation of Chem. 212. Substances of more difficult nature are analyzed, as sulphites, sulphides, bleaching powder, Turkey Red Oil, soaps, etc.

Messrs. Wilson, Caveness, Reid.

Chem. 215. Quantitative Analysis.

0-0-4

Prerequisite: Chem. 211. Elective for agricultural students.

Course allows student to choose field of analysis, such as soil analysis, fertilizers, feedstuffs, insecticides, and fungicides.

Mr. Wilson.

Chem. 231. Physical Chemistry.

5-0-0

Required of Cer. E.; elective to others. Prerequisite: Chem. 101, 103, 105.

Fundamental chemical principles from a physiochemical viewpoint; special attention to silicate analysis, colloids, and phase rule.

Mr. Singer.

Chem. 241. Introduction to Organic Chemistry.

0-4-0 or 0-0-4

Required of sophomores in Agriculture. Elective for others. Prerequisite: Chem. 101, 103, 105.

Hydrocarbons, alcohols, aldehydes, ketones, acids, ethers, esters, amino acids, and benzene derivatives; carbohydrates, fats, proteins, and related compounds.

Mr. Williams.

Courses for Graduates and Advanced Undergraduates**Chem. 303. Historical Chemistry.**

2-0-0

Prerequisite: Chem. 101, 103, 105.

Development of Chemistry and the history of men instrumental in the progress of Chemistry.

Mr. Williams.

Chem. 304. Theoretical Chemistry.

0-2-2

Prerequisite: Chem. 101, 103, 105.

Atoms and molecules, chemical reactions and conditions influencing them, electronic conception of valence, radio activity, etc.

Mr. Williams.

Chem. 311. Advanced Qualitative Analysis.

4-0-0

Prerequisite: Chem. 211 or its equivalent.

Theory and reactions in analysis of more complex compounds.

Mr. Wilson.

Chem. 315. Advanced Quantitative Methods.

0-3-0 or 0-0-3

Prerequisite: Chem. 213 or its equivalent.

Methods and apparatus in advanced quantitative analysis; heat of combustion, colorimetry, hydrogen ion concentration, electric combustion of steel, etc.

Mr. Wilson.

Chem. 321. Organic Chemistry.

4-4-4

Required of juniors in Chemical Engineering, Chemistry, and Textile Chemistry and Dyeing. Elective for others. Prerequisite: Chem. 101, 103, 105.

Aliphatic and aromatic compounds; practical applications; methods of preparation and purification of compounds, and their structures.

Mr. Williams.

Chem. 331. Physical Chemistry. 4-4-4 or 4-4-0

The first two terms only required of Chemical Engineers; elective for Agricultural Chemistry students. Prerequisite: Chem. 213.

Principles of Physical Chemistry; laws and theories, application to various branches of chemistry and to industrial processes. Mr. Jordan.

Chem. 335. Chemistry of Colloids. 0-3-0

Prerequisite: Chem. 241 or 321.

Colloidal behavior, osmotic pressures, dialysis, sols and gels, membranes and membrane equilibria, proteins, and Donnan equilibrium.

Mr. Jones.

Chem. 340. Food Products and Adulterants. 3-0-0 or 0-3-0

Designed for students in all schools. Prerequisite: Chem. 241.

Food principles, cereals, starches, sugars, fats, milk and milk products, the packing house, food preservation, beverages, spices and condiments; food legislation, food advertising. Mr. Satterfield.

Chem. 341. Chemistry of Vitamins. 0-3-0 or 0-0-3

Required of juniors in Animal Prod.

Prerequisite: Chem. 241 or 321.

Application of vitamin hypothesis to human nutrition; history, nomenclature, properties, distribution, effects of deficiencies, and vitamin values.

Mr. Satterfield.

Chem. 342. Physiological Chemistry. 3-3-0

Prerequisite: Chem. 241 or 321.

Essential chemical facts pertaining to life processes; digestion, absorption, metabolism, secretions, and excretions; lectures and laboratory.

Mr. Satterfield.

Chem. 343. Blood Analysis. 0-3-0 or 0-0-3

Prerequisite: Chem. 212 and 321.

Hemoglobin, sugar, urea, uric acid, cholesterol, creatine, creatinine, non-protein nitrogen, amino acid nitrogen, calcium, etc.; Folin-Wu system is emphasized; lectures and laboratory.

Mr. Satterfield.

Chem. 344. Food and Nutrition. 0-3-3

Prerequisite: Chem. 241 or 321.

Open to all students desiring a practical knowledge of the subject.

Carbohydrates, fats, proteins, amino acids, minerals, fiber, vitamins and enzymes; nutritive value of food materials; digestion, food idiosyncrasy; acidosis and alkalosis.

Mr. Satterfield.

Chem. 345. Agricultural Chemistry. 3-0-0

Prerequisite: Chem. 101, 103, 105, and 241.

Feeding the plant; insecticides and fungicides; transforming the plant into human food and animal food. Composition of plants; relation between composition and uses.

Mr. Satterfield.

Courses for Graduates Only**Chem. 417. Micro-chemical Analysis.** 0-0-3

Prerequisite: Chem. 213.

Inorganic micro qualitative analysis; fibres, starches, etc. Mr. Wilson.

Chem. 421. Organic Chemistry, Advanced. 3-3-3

Prerequisite: Chem. 321.

Principles of Organic Chemistry, current literature; laboratory work and preparation in quantity.

Mr. Williams.

Chem. 422. Organic Qualitative Analysis. 3-0-0

Prerequisite: Chem. 321.

Detection of elements and radicals, group characteristics.

Mr. Williams.

Chem. 423. Organic Quantitative Analysis. 0-3-0

Prerequisite: Chem. 212, 321.

Analysis of organic compounds for carbon, hydrogen, nitrogen, the halogens, sulfur, etc.

Mr. Williams.

Chem. 424. Organic Micro-Analysis. 0-0-3

Prerequisite: Chem. 321.

Tests for compounds, and impurities in quantities too small to be detected by ordinary methods.

Mr. Williams.

Chem. 441. Biochemistry. 0-3-3

Prerequisite: Chem. 321 and 344.

Special topics in Biochemistry. Advanced study in the fields of Biochemistry.

Mr. Satterfield.

Chem. 451. Chemical Research. 3-3-3

Prerequisite: 54 term credits in Chemistry. Open to all graduates.

Special problems that will furnish material for a thesis.

Mr. Jordan. Mr. Satterfield. Mr. Williams. Mr. Wilson.

Chem. 491. Seminar. 1-1-1

Required of graduate students specializing in Chemistry.

Preparation and presentation of abstracts of current publications in the field of Chemistry.

CIVIL ENGINEERING
Courses for Undergraduates

C. E. 100. Drawing. 1-1-1

Required of Freshmen in Forestry.

Plain lettering, common symbols, platting of areas from compass survey notes furnished, filling in contours from notes furnished, tracing, calculation of areas—by planimeter. Finished maps. Sloane and Montz, *Elementary Topographic Drawing*.
Mr. Fontaine.

C. E. s101. Surveying and Mapping. 3 credits

Required in summer immediately following sophomore year in Forestry.

Prerequisite: C. E. 206, C. E. 207, and C. E. 208a.

Boundary; topographical surveys, and calculations of sections of College Experimental Forestry Lands. Finished section maps. Davis, Foote, Rayner, *Surveying*.
Staff.

C. E. s102. Surveying. 3 credits

Required in the summer immediately following the freshman year in Agr. Eng., A. E., Cer. E., and E. E. and M. E. following the sophomore year.

The use, care and adjustment of surveying instruments; elementary land surveying, traverse lines, leveling, topographical surveying and stadia measurements. Tracy, *Plane Surveying*.
Mr. Mann and Staff.

Note: Two sessions. (a) Full time 3 weeks immediately following close of College third term; (b) Half time, 6 weeks concurrently with the College Summer School term in order to allow students to schedule summer school work.

Courses for Advanced Undergraduates

C. E. 201. Materials of Construction. 3-0-0

Required of juniors in C. E., H. E., and Constr. E., San. E., M. E. and A. E. and of seniors in I. E.

The study of materials used in buildings and other engineering structures, with particular reference to their methods of manufacture and physical properties. Two periods lecture and recitation; one period laboratory. Tucker, *Laboratory Manual in the Testing of Materials. Lectures and Notes*.

Mr. Geile and Mr. Tucker.

C. E. 202. Sanitary and Mechanical Equipment of Buildings. 0-3-0

Required of juniors in Constr. E. and in Arch. E. Prerequisite: E. M. 211, 212, 213.

A study of water supply, soil, waste, and vent-pipe systems, principles and practice of heating and ventilating and a discussion of various other mechanical equipment of a building, such as elevators, dust-collecting systems, etc. Gay and Fawcett, *Mechanical and Electrical Equipment of Buildings*.

Mr. Geile.

C. E. 204. Reinforced Concrete.

3-3-0

Required of all seniors in Department of Civil Engineering and Architectural Engineering.

Prerequisite: E. M. 211, 212, 213, 221, 222.

Derivation of formulas used in reinforced concrete design, use of diagrams and curves. Illustrative problems in design. Turneaure and Maurer, *Principles of Reinforced Concrete Construction*. Mr. Mann, Mr. Geile.

C. E. 205. Mapping.

0-1-0

Prerequisite: M. E. 102. To be taken concurrently with C. E. 206.

Required of all students in the Department of Civil Engineering and Geological Engineering.

Practice in conventional signs and lettering. A complete topographical map and tracing is to be made involving the use of three methods of contour location. Field notes to be furnished.

Mr. Fontaine, Mr. Lambe.

C. E. 206. Surveying, Theoretical.

3-3-3

Required of sophomores in Civil Construction, Highway and Sanitary Engineering. First and second terms required in Forestry, Geol. Eng., and Landscape Architecture.

Use, care and adjustment of surveying instruments, Land Surveying, Topographical Surveying, Leveling and Theory of stadia measures, plane table, etc.

Third term, railroad surveys, including simple, compound, reverse, and spiral curves, turnouts, etc. Davis, Foote, Rayner, *Surveying*. Allen, *Railroad Curves and Earthwork*. Staff.

C. E. 207. Field Surveying.

1-0-1

Required in C. E., Constr. E., San. E., H. E., and Landscape Architecture. First term required in Geol. E. and Forestry.

Surveying field practice, topographical surveys, railroad and highway curves. Profiles, cross-sections. Staff.

C. E. 208a. Topographic Drawing.

0-1-0

Required in Forestry, Landscape Architecture.

Plotting by coordinates; contours and general topography. *Notes*.

Staff.

C. E. 208. Engineering Drawing.

1-1-1

Required of all students in Civil, Sanitary, and Highway Engineering.

Prerequisite: C. E. 206-207.

Conventional signs and lettering, complete topographic map, plans, profile, cross-sections for railroads or highways; calculation of areas and volumes for grading and plans for drainage structures. *Notes*. Mr. Tucker.

C. E. 209. Graphic Statics.

1-0-0

Required of all students in Departments of Civil and Architectural Engineering.

Principles involved in the solution of problems by graphical methods. Moments, shears. Resultant pressure on retaining walls. Stress diagrams. Fairman and Cutshall, *Graphic Statics*. Mr. Mann.

C. E. 211. Construction Engineering I.

3-3-3

Required of juniors in Constr. E.

Study of working drawings, good practice in masonry and frame construction, estimating quantities. Huntington, *Building Construction Notes and Trade Literature*. Mr. Geile.

C. E. 214. Mill and Mill Village Sanitation.

3-0-0

Required of students in Textile Chemistry and Dyeing.

Prerequisite: Chem. 105.

Mill and mill village water supply and sewage disposal, mosquito and fly control, sanitary milk supply, industrial hygiene. This course given for textile students. Eihlers and Steele, *Municipal and Rural Sanitation*.

Mr. Johnson.

C. E. 215. Sanitary Engineering.

0-0-3

Required of juniors in San. E. Prerequisite: Chem. 105.

This course covers, in a general way, the field of Sanitary Engineering, including: water supply and sewage disposal; ventilation; mosquito and fly control; refuse disposal; public health laws and organization. Babbitt and Doland, *Water Supply Engineering*. Metcalf and Eddy, *Sewerage*.

Mr. Johnson.

C. E. 240. Advanced Surveying.

3 credits

Required in the summer immediately following the sophomore year in Civil Engineering.

Prerequisite: C. E. 206 and 207.

Plane table practice, special problems in surveying practice; triangulation, railroad and highway spirals; hydrographic surveying with sextant; plane table problems; the use and rating of current meters; measurement of stream flow; drainage problems.

Laying out proposed construction work. Topography, details, special problems. Davis, Foote, Rayner, *Surveying*. Mr. Mann and Staff.

C. E. 250. Hydraulics.

0-0-3

Prerequisite: E. M. 230.

Required of juniors in Civil Engineering.

Application of the fundamentals of Fluid Mechanics to problems in Hydraulic Engineering; flow in pipes, in canals and natural water courses; relation of rainfall, topography, evaporation and runoff; stream-gaging, maximum, minimum and mean flow; design of locks and dams for navigation; flood control and power development; theory of design, installation and operation of pumps and hydraulic motors.

Mr. Riddick.

Courses for Graduates and Advanced Undergraduates

C. E. 301. Applied Astronomy.

0-0-4

Required of seniors in C. E. and H. E. Prerequisite: C. E. 206, 207.

The application of astronomy in determining latitude, azimuth, longitude and time; astronomical observations with transit and sextant; reduction of observations. One credit given for observations. Hosmer, *Applied Astronomy*.

Mr. Tucker.

C. E. 302. Construction Engineering II.

3-3-3

Required of seniors in Constr. E. Prerequisite: E. M. 211, 212, 213, 221, 222.

Study of construction of reinforced concrete and steel framed structures. Estimation, cost analysis, organization, management of construction plants, field methods, proposals and contracts. Huntington, *Building Construction Notes and Trade Literature*.

Mr. Geile.

C. E. 303. Construction Equipment.

0-3-0

Required in Construction Engineering.

A study of hoists, concrete mixers, excavators, tools, and general equipment used on construction. *Lecture Notes*.

Mr. Geile.

C. E. 304. Financing of Sanitary Utilities.

0-0-3

Required in Sanitary Engineering.

Rates and service charges, collections, operating cost control, bond issues, and budgets.

Mr. Johnson.

C. E. 305. Waterworks.

0-3-0

Required of seniors in C. E. and San. E. Prerequisite: E. M. 230, 231.

Municipal waterworks; quantity; sources of supply, collection; purification, distribution. Babbitt and Doland, *Water Supply Engineering*.

Mr. Johnson.

C. E. 306. Railroad Economics.

0-3-0

Required of seniors in Civil Engineering. Prerequisite: C. E. 206.

Economics of railroad location; construction, maintenance and operation; betterment and valuation surveys. Raymond, *Elements of Railroad Engineering*.

Mr. Mann.

C. E. 307. Sanitary Engineering Laboratory.

1-1-0

Required in Civil Engineering and Sanitary Engineering.

Laboratory analysis of sewage and sludge. Inspection trips to sewage disposal plants. Laboratory analysis for determining quality and safety of water. Inspection of waterworks in various cities. *Notes*.

Mr. Johnson.

C. E. 308. Sewerage.

3-0-0

Required in C. E. and San. E. Prerequisite: E. M. 230, 231. Chem. E. 208. Separate and combined sewer systems; principles of design and construction; sewer appurtenances; disposal plants. Metcalf and Eddy, *Sewerage*. Mr. Johnson.

C. E. 309. Specifications.

0-0-3

Required of seniors in Constr. E. and Arch. E. Preparation of specifications and legal documents for building operations. Kirby, *Elements of Specification Writing*. Mr. Geile.

C. E. 310. Water Purification.

0-0-3

Required of seniors in San. E. Prerequisite: E. M. 230, 231. Design and operation of water purification plants: sedimentation, coagulation, filtration, and sterilization of water. Recent treatment processes. Inspection trips to various plants. Babbitt and Doland, *Water Supply Engineering*. Mr. Johnson.

C. E. 311. Sewage Disposal.

0-3-0

Required of seniors in San. E. Prerequisite: C. E. 308. Design and operation of sewage disposal plants; treatment processes and devices; efficiencies and costs of plants; public health, legal and economic problems involved. Inspection trips to disposal plants. Metcalf and Eddy, *Sewerage*. Mr. Johnson.

C. E. 312. Accident Prevention in Construction.

0-0-3

Required in Construction Engineering. Causes and costs of accidents in construction. A study of methods used in accident prevention work. A. G. C. *Accident Prevention Manual*. Mr. Geile.

C. E. 313. Theory of Structures.

3-3-0

Required of seniors in C. E., H. E., Constr. E., San. E. Prerequisite: C. E. 203.

Roof trusses; bridge trusses; three hinged arch, lateral bracing and portals; rigid frame, wind stresses in tall buildings, indeterminate trusses, secondary stresses. Sutherland and Bowman, *Structural Theory*. Mr. Geile.

C. E. 313a. Theory of Structures (abridged).

3-3-0

Prerequisite: E. M. 222.

Required in Architectural Engineering. C. E. 313 to be required if less than five students enroll for C. E. 313a.

Stress analyses and designs of wooden and steel roof trusses; wood, steel, and reinforced concrete floor systems. Theory and design of columns, footings, retaining walls. Theories for wind stress design in tall buildings.

Mr. Geile.

C. E. 314. Structural Design.

0-3-3

Required of seniors in C. E., H. E., Constr. E., San. E. Prerequisite: E. M. 221, 222, and first term C. E. 313.

Design of beams, columns, tension members, plate girders, trusses and structures. Bishop, *Structural Design*. Mr. Mann.

C. E. 315. Soil Mechanics.

3-0-0

Prerequisite: E. M. 221 and 222.

Required of all seniors in Civil Engineering.

The classification of soils; their physical characteristics and tests. The suitability of certain types of soils for foundations. Methods of stabilizing soils. General principles involved in selection of soils for foundations.

Courses for Graduates Only**C. E. 401. Advanced Sewage Disposal.**

3-3-0

Prerequisite: C. E. 311.

Study of sewage, sludge, and industrial wastes, efficiencies obtained by different types of disposal plants, treatment processes and their results, sludge conditioning, digestion and disposal. Mr. Johnson.

C. E. 402. Advanced Water Purification.

0-3-3

Prerequisite: C. E. 310.

Study of water purification processes, primary and secondary treatments, control of tastes and odors, and treatment of colored waters.

Mr. Johnson.

C. E. 403. Sanitary Engineering Research.

3-3-3

Prerequisite: C. E. 215, 310, 311.

In the first term a study of recent developments and research in Sanitary Engineering is made from current literature. In the second term a research problem is selected and data on the problem is compiled from literature. In the third term individual research work is done.

Mr. Johnson.

C. E. 404. Advanced Structural Theory.

3-3-3

Prerequisite: C. E. 313.

Stress analysis in continuous frames and arches; secondary stresses; wind stresses and space frame-work. Analyses by use of Beggs' Deformeter. Sutherland and Bowman, *Advanced Structural Theory*. Mr. Geile.

C. E. 405. Construction Engineering Research.

3-3-3

Prerequisite: C. E. 302.

Study of recent advancement and developments in Construction. Original research. Mr. Geile.

C. E. 406. Advanced Structural Design.

3-3-3

Prerequisite: C. E. 404.

Analysis and design of fixed, hinged and multispan arches. Complete designs of steel and reinforced concrete structures. MacCullough and Thayer, *Elastic Arch Bridges*. Mr. Geile.

ECONOMICS**Courses for Undergraduates****Econ. 102. Introduction to Economics.** 3-0-0 or 0-3-0 or 0-0-3

Required of students in Forestry, Land, Arch., and Ind. Arts.

It treats of the business aspects and economic organization of society; production, distribution, and value of economic goods. Mr. Green.

Econ. 103. General Economics. 3-3-3

Required of sophomores in Constr. E., I. E., juniors in Agricultural Teaching, Cer. E., C. E., E. E., Geol. E., H. E., M. E. and Textile curricula, and of seniors in A. E., Chem. E. and San. E.

A study of economic institutions and general principles governing production and distribution of wealth under the existing economic organization.

Messrs. Green, McNatt, Moen, Leager, and Brown.

Econ. 112. Accounting for Engineers. 3-0-0 or 0-3-0 or 0-0-3

A survey of accounting and financial statements and records; devices, statements, and cost records; their construction, their use and interpretation.

Mr. Shulenberger.

Courses for Advanced Undergraduates**Econ. 201. Accounting I.** 3-3-3

Required of juniors in Industrial Engineering, Textile Mgt., and Yarn Mfg.

Fundamental principles of theory and practice; interpretation of structure, form and use of business statements. Mr. Shulenberger.

Econ. 210. Business Organization. 0-3-0

Required of seniors in Highway Engineering. Prerequisite: Econ. 102 or 103.

Forms of business enterprises; single enterprises, partnerships, joint-stock companies and corporations, and principles of business management.

Mr. Green.

Econ. 211. Business Law. 3-0-0 or 0-3-0 or 0-0-3

Required of seniors in Engineering.

Sources of law, fields of law, contracts, agency, sales, negotiable documents, and the law as it controls business transactions.

Messrs. Green and McNatt.

- Econ. 215. Marketing Methods.** 3-3-3
 Prerequisite: Econ. 102 or 103.
 Marketing functions, agencies, systems, retailing, market analysis, markets.
 Mr. Moen.
- Econ. 216. Marketing Methods and Sales Management.** 3-3-3
 Prerequisite: Econ. 102 or 103.
 Marketing methods; problems in industrial marketing; sales management in industry.
 Mr. Moen.
- Econ. 217. Advertising.** 3-0-0
 Principles and practice of Advertising.
 Mr. Moen.
- Econ. 218. Sales Management.** 0-3-3
 Administrative policy and organization; sales methods, planning and research; sales control.
 Mr. Moen.
- Econ. 221. Money, Credit, and Banking.** 3-3-0
 Prerequisite: Econ. 102 or 103.
 Banking and credit institutions, price changes, monetary and banking developments; Federal Reserve System and money market.
 Mr. Moen.
- Econ. 223. Business Finance.** 0-0-3
 Prerequisite: Econ. 102 or 103.
 Raising and spending of funds, and standards of control.
 Mr. Moen.
- Econ. 229. Purchasing and Storeskeeping.**
 Prerequisite: Econ. 102 or 103.
 Standards and specifications, requisitions, purchase orders, and their applications.
 Mr.
- Econ. 230. Industrial Management.** 3-3-3
 Prerequisite: Econ. 103.
 Internal working of industrial enterprises; control through budget-making, production and planning methods; industrial problems.
 Mr.
- Econ. 230-A. Industrial Management.** 3-3-0
 Required of seniors in Textile Engineering. Prerequisite: Econ. 102.
 A more specialized course than Econ. 230. Industry in general with emphasis and application to textile industry.
 Mr.
- Econ. 231. Industrial and Personnel Management.** 3-3-3
 Prerequisite: Econ. 103.
 More general treatment of Economics 230 and Economics 340; administrative features. Personnel management, and production controls.
 Mr.

Econ. 233. Office Management.

0-0-3

Prerequisite: Econ. 102 or 103.

Principles of management, office arrangements, filing methods, office personnel, business documents, reports, dictation and correspondence.

Mr. Green.

Econ. 239. Labor Problems.

3-0-0

Prerequisite: Econ. 102 or 103.

History, organization, activities, and policies of organized labor. Recent developments.

Mr.

Econ. 240. Personnel Management.

0-0-3

Required of Textile seniors. Elective for Engineering students. Prerequisite: Econ. 102 and Soc. 102.

This course will follow as closely as possible Economics 340; subject matter as related to a proper background for successful Personnel Management.

Mr.

Econ. 241. Traffic Management.

3-0-0

Prerequisite: Econ. 103.

Functions of traffic departments, shipping, transportation management, rates, etc.

Mr.

Econ. 242. Time Study.

0-3-0

Prerequisite: Econ. 102 or 103.

Analysis of shop operation in elements, and the determination of the time for each element; emphasis on factors affecting job specification, and wage rate setting.

Mr.

Econ. 256. Real Estate.

3-3-3

Prerequisite: Econ. 103.

Buying, selling, building, and managing real property; laws affecting property; real estate as a profession.

Mr. Moen.

Econ. 270. Rural Law.

0-0-3

Elective. Prerequisite: Econ. 102 or 103.

Contracts, agency, sales, land transfers, mortgages, and other instruments, legal aspects of the business of farming.

Mr.

Courses for Graduates and Advanced Undergraduates**Econ. 301. Accounting II.**

3-3-3

Prerequisite: Econ. 201 and 6 hours in Economics.

Problems of asset valuation such as depreciation, replacements, fire losses, amortization, etc., found in all types of business organizations.

Mr. Shulenberger.

- Econ. 302. Modern Accounting Systems.** 3-3-3
Prerequisite: Econ. 201.
Principles of system building, structure and expansion; individual studies of representative business systems. Mr. Shulenberg.
- Econ. 303. Principles of Cost Accounting.** 3-3-0
Prerequisite: Econ. 201.
Cost finding, material costs, labor costs, burden and overhead costs; cost accounting system for manufacturing and extractive industries. Mr. Shulenberg.
- Econ. 304. Auditing.** 3-3-3
Prerequisite: Econ. 201.
Cases, records, working papers, verification, adjustment, composition, preparation, and rendition. Mr. Shulenberg.
- Econ. 312. Statistical Method.** 3-3-0
Required of juniors in Agricultural Administration (one term). Prerequisite: Econ. 102 or 103.
Statistical methods, statistical types, collection and analysis of statistical data. Mr. Leager.
- Econ. 314. Business Statistics.** 0-0-3
Prerequisite: Econ. 312.
Statistical methods and data; price levels, the business cycle, and business barometers in forecasting business conditions. Mr. Leager.
- Econ. 321. Principles of Money and Banking.** 3-3-3
Analysis and research in the field of money and banking. Selected readings and reports. Mr. Moen.
- Econ. 323. Business Finance II.** 3-0-0
Prerequisite: Econ. 223.
Financial Administration and policies as applied in Modern Business. Mr. Moen.
- Econ. 324. Foreign Exchange and Trade.** 0-0-3
Prerequisite: Econ. 221.
Theory of foreign trade, commercial policies, and balance of international payments. Mr. Moen.
- Econ. 325. Investments.** 0-3-0
Prerequisite: Econ. 221.
Different types of investment securities and methods of judging them. Mr. Moen.

Econ. 326. Public Finance I.

0-3-0

Elective. Prerequisite: Econ. 103 and 6 additional credits in Economics.
Classes of income and expenditure; incidence of different classes of taxes.
Mr. Moen.

Econ. 327. Public Finance II.

0-0-3

Elective. Prerequisite: Econ. 326.

A continuation course for Public Administration.

Mr. Moen.

Econ. 330. Principles of Insurance.

0-0-3

Elective. Prerequisite: Econ. 103.

Risk is an element of all agricultural and industrial activity. Such risks as can be covered by insurance are discussed, with the appropriate form of insurance, e.g., employer's liability, workmen's compensation, fire, life, and other forms.

Mr. Shulenberger.

Econ. 338. Conservation of Natural Resources.

0-2-0

Elective. Prerequisite: Econ. 103; senior standing.

The extent, uses, rates of consumption, and probable exhaustibility of our most important resources; utilization for welfare of the race.

Mr. Brown.

Econ. 340. Personnel Management.

0-3-3

Prerequisite: Econ. 103 and 12 additional credits in Economics and Sociology.

Students desiring to take this course are advised to take one or more of the following: Psychol. 238, Econ. 239, and Soc. 310.

Principles of effective management of men, including selection, progressive adjustment, and motivation of personnel in industry.

Mr.

Courses for Graduates Only**Econ. 401. Advanced Economic Theory.**

3-3-0

Prerequisite: Eighteen (18) credits in Economics.

Recent and current economic theory; principal schools of economists; theory of prices under the system of free enterprise.

Mr. McNatt.

Econ. 402. History of Economic Doctrines.

0-0-3

Prerequisite: Econ. 401.

History of economic doctrines from the Mercantilists to the period of Ricardo.

Mr. McNatt.

Econ. 415. The Economics of Distribution.

3-3-3

Prerequisite: Econ. 103 and 215.

An advanced study of theory and practice of economic distribution.

Mr. Moen.

Econ. 424. Advanced Economic Statistics. 3-3-3

Prerequisite: Econ. 312 or equivalent.

Application of statistical methods to the solution of more complex agricultural and economic problems. Mr. Leager.

Econ. 430. Industrial Management—Advanced. 0-3-0

Prerequisite: Econ. 103 and 230, or graduation in Engineering.

Industrial problems and scientific systems, applied to textile, metal, and furniture trades. Individual assignments and analysis of definite situations. Mr. _____

Econ. 439. Labor Problems—Advanced. 0-3-0

Prerequisite: Econ. 103, 239, and 9 credits in Sociology and 9 credits in Psychology.

Analysis of problems confronting organized and unorganized workers in all industries. Mr. _____

Econ. 440. Personnel Management—Advanced. 0-0-3

Prerequisite: Econ. 103, 230, 340, and 439.

Methods of personnel management, differences between industries and between plants, and scientific training of personnel manager. Mr. _____

EDUCATION

For description of summer school (s) courses see Summer School Bulletin.

Courses for Undergraduates**Ed. 106. Industrial Arts. 3-3-3**

Required in Industrial Arts curriculum.

Lectures, laboratory work, and visitations. Emphasis on wood, metal, electrical, and printing shop work as meeting needs of general shop teaching. Required as major or minor in Industrial Arts Education.

Mr. Boshart.

Courses for Advanced Undergraduates**Ed. 203. Educational Psychology. 3-3-0**

Required of students in Education; elective for others.

The meaning of education, child development, problems of adjustment and educational guidance; problems of learning, motivation, interests, and the measurement of educational efficiency. Mr. Garrison.

Ed. 208. Visual Aids. 0-0-3

Required of students in Agricultural Education.

Prerequisite: Junior standing.

Methods and technique of visual instruction: lettering; statistical illustrating; chart, graph, and poster-making; photography; lantern-slide making; projector operation, care and use. Designed for teachers and extension workers. Mr. Armstrong.

Ed. 216. Local Survey, Planning a Program. 3-0-0

A course designed to teach methods of surveys of local occupations, and upon the findings plan a suitable program of Industrial Education.

Mr. Smith.

Ed. 226. Shop Planning and Equipment. 0-0-3

Making plans for a convenient shop, methods of checking tools, shop layouts, safety devices, and the selection of tools and machinery.

Mr. Smith.

Ed. 232. Project Design, A, B. 0-3-3

Required in Industrial Arts. Prerequisite: M. E. 102 and 103.

The designing of projects suitable for the general industrial arts laboratory of the junior and senior high school or specialized class work. Suitable materials, types of construction, and utility of projects will be considered.

Mr. Boshart.

Ed. 233. Practices in Industrial Education Teaching, A, B. 0-3-3

Prerequisite: Ed. 232.

Designed to meet the needs of teachers and principals of schools where shop work and drawing are taught. Much attention will be given to the working out of suitable problems and the types of equipment best adapted for the work.

Mr. Boshart, Mr. Smith.

Ed. 250. Trade and Job Analysis. 3-0-0

Elective.

Deals with the analysis of trades and jobs, endeavoring to determine how they may be broken up into units for teaching purposes. Will consider the trade demands of the worker and the essential materials to be used. Intended for students in Textiles and Engineering who expect to teach evening or day classes in vocational work.

Mr. Boshart, Mr. Smith.

Ed. 260. Course Making and Lesson Planning. 3-0-0

Deals with the arrangement of subject matter into courses and lessons for instructional purposes. Consideration will be given to the preparation of outlines, job sheets, and the materials to be used in teaching of shop and related subjects. Intended for those who expect to teach in day and evening classes.

Mr. Boshart, Mr. Smith.

Ed. 261. Related Subject Matter. 0-0-3

An analysis and study of the subject to organize, select, and prepare materials for related subjects course.

Mr. Smith.

Courses for Graduates and Advanced Undergraduates**Ed. 306. Principles of Teaching. 3-0-0**

Required of seniors in Agr. Ed. Prerequisite: Ed. 203.

Principles of teaching related to job of teaching vocational agriculture; motivation, directing study, teaching technique, lesson planning.

Mr. Cook.

Ed. 307. Methods of Teaching Agriculture. 5-0-0

Required of students in Agricultural Education. Prerequisite: Ed. 203, 208, or equivalents, and at least 12 credits in Agriculture.

Organization of subject matter; teaching techniques; supervised practice; textbooks and reference material; Future Farmers of America; room arrangement and equipment. Mr. Cook.

Ed. 308. Observation and Directed Teaching. 0-5-0

Required of seniors in Agr. Ed. Prerequisite: Ed. 203, 306, 307, and at least 12 credits in Agriculture.

Observation and teaching vocational agriculture under supervision, participation in the varied activities of the teacher of vocational agriculture. Staff in Agricultural Education.

Ed. 311. Evening Classes and Community Work. 0-5-0

Required of seniors in Agr. Ed. Prerequisite: Ed. 203, 306, 307, and at least 12 credits in Agriculture.

Community activities of teachers of vocational agriculture, organization and teaching evening and part-time classes. Mr. Cook.

Ed. 312. Materials and Methods in Teaching Agriculture. 0-5-0

Required of seniors in Agr. Ed. Prerequisite: Ed. 203, 306, 307, and 12 credits in Agriculture.

Use of illustrative and actual materials in teaching vocational agriculture; collection and preservation of specimens; chart making; practice in use of materials in directed teaching. Mr. Armstrong.

Ed. 320. Vocational Guidance. 0-3-0 or 0-0-3

Required of students in Industrial Arts, and elective for others. Prerequisite: Ed. 203, 321, 332, or equivalent.

The course in vocational guidance is intended to give emphasis to the place of guidance in the school program. It will treat of the development of educational and vocational guidance, its relation to personnel work, principles and practices of guidance and employment, child labor legislation, and forms and records for school use. Mr. Boshart.

Ed. 321. Vocational Education. 0-3-0

Required of students in Industrial Arts. Prerequisite: Ed. 203, 332, and 6 additional credits in Education.

This course dealing with the problems of vocational education is intended to give acquaintance with its underlying philosophy, its place in our education, the laws governing it, and the prevailing practices and administration. It is of particular interest to administrators and teachers who have or expect to have to do with the direction of educational work in Agriculture, Homemaking, Industry, and Commerce. It deals with all-day, evening, part-time, and general continuation class work. Mr. Boshart, Mr. Smith.

Ed. 322. Methods in Industrial Arts Teaching.

4-0-0

Required of seniors in Industrial Arts and those preparing to teach vocational classes in trades and industries.

The basic principles of teaching in the classroom or shop; selection and arrangement of material; lesson planning, and conduct of class work.

Mr. Boshart.

Ed. 324. Occupational Studies.

0-0-3

Required of students of Industrial Arts and elective for others. Prerequisite: Ed. 320 and 6 additional hours in Education.

A comprehensive study of the field of occupations. The work will consist of readings, reports, discussions, lectures, and visitations. Analysis of leading occupations will be made with the idea of selecting and preparing teaching units for related subject matter courses.

Mr. Boshart.

Ed. 325. Methods of Teaching Industrial Education.

3-0-0

This course is intended for those persons who are teaching or have a desire to teach industrial education classes on a trade basis. It would be of special interest to industrial arts teachers who have had trade experience, academic teachers who have had work experience in industry sufficient to learn a trade, and men with several years industrial experience who think they would like to teach.

Some of the topics that will be developed are: Federal regulations that must be met, aims and objectives, the selection of pupils, making analyses of occupations to be taught, organization of subject material into units, types of shops and equipment, and class organization.

Mr. Smith.

Ed. 326. Secondary Education in Agriculture.

0-0-3

Prerequisite: Ed. 203 and 6 other credits in Education.

School organization in the United States with special reference to agricultural education, curricula; elimination; movements in guidance and character education, with particular reference to agricultural teaching.

Mr. Cook.

Ed. 327. Principles of Industrial Education.

0-3-0

The philosophy of industrial education, a review of Federal and State legislation pertaining to industrial education. The different kinds of schools, such as part-time, all-day trade, general industrial, and evening school.

Mr. Smith.

Ed. s328. Diversified Occupations.

3 credits

Ed. s330. Visual Instruction.

3 credits

Ed. s331. Visual Aids in the Social Sciences.

3 credits

Ed. 332. Problems in Secondary Education.

0-0-3

Ed. Ex. s352. Theory of Industrial Arts.

3 credits

Ed. Ex. s354. Practical Arts Problems.

3 credits

- Ed. s355. Art Studies in Industrial Art Problems.** 1½ or 3 credits
Ed. 357. The Problems of the General and Unit Shops. 3-0-0

Intended for those who are teaching or expect to teach shop work and drawing. Its purpose is to acquaint students with the possibilities of the general shop as compared with those of the unit shop and to aid in setting up procedures for each type of shop under conditions where they can best function. Those taking this course should take parallel courses in shop instruction unless they have had considerable experience. Problems of organization, equipment, instruction sheets and their uses, and courses of study will be considered.

Mr. Boshart.

- Ed. s360. Special Problems in Teaching Agriculture.** 3 credits
Ed. 361 (a-b). Trends in Teaching Vocational Agriculture. 3 or 6 credits

Prerequisites: 18 credits in Education, including 5 in Agricultural Education.

Newer procedures in Teaching Vocational Agriculture, the problems of the out-of-school farm youth, evening class instruction and the F.F.A.

Staff in Agricultural Education.

- Ed. 362 (a-b). Course of Study Problems.** 3 or 6 credits

Prerequisites: 18 credits in Education, including 5 in Agricultural Education.

Selection and organization of subject matter in Vocational Agriculture, supervised practice.

Staff in Agricultural Education.

- Ed. 363 (a-b). Guidance and Individual Instruction.** 3 or 6 credits

Prerequisites: 18 credits in Education, including 5 in Agricultural Education.

Individualized instruction applied to Vocational Agriculture. Study of the agricultural occupations, guidance and counseling with special reference to pupils in Vocational Agriculture.

Staff in Agricultural Education.

- Ed. 376. Psychology of Adolescence.** 3-0-0

Prerequisite: Ed. 203 and 6 credits in Education or Psychology.

A study of the nature, growth, social development, and interests of adolescent boys and girls. Especially designed for those concerned with the organization and direction of group activities for boys and girls in rural and industrial centers.

Mr. Garrison.

- Ed. 381. Character Education.** 0-0-3

Prerequisite: Twelve credits in Education.

Nature of the problem, needs for character training, present development, agencies responsible, theories of character development, results of investigations, materials, and methods for teachers.

Mr. Cook.

Courses for Graduates Only**Ed. 403. Problems in Educational Psychology. 3-3-0**

Prerequisite: Eighteen credits in Education and Psychology.

The nature, causes, and measurements of individual differences in relation to problems of education; the principles of learning, motivation and conditions of educational improvement; the application of psychological principles to mental and educational measurements. **Mr. Garrison.**

Ed. 410. Administration and Supervision of Vocational Education. 3-3-0

Prerequisite: Ed. 203, 320, 321, and 332.

Administration and supervisory problems of vocational work. Considers the practices and policies of Federal and State officers, organizations and administration of city and consolidated systems, and individual school departments for Vocational Education. For graduate students majoring in Education. **Mr. Boshart.**

Ed. 412. Occupational Counseling. 0-0-3

Prerequisite: Ed. 320, 321, or equivalent.

This course is intended for teachers of experience and those interested in the problems of guidance in school and life. Attention is given to group and individual counseling as it may be applied to the junior and senior high schools, colleges or placement offices, and to the procedures of conducting interviews and conferences. Information concerning occupational material will be organized, evaluated, and applied to type cases. The relation to personnel work will be considered as the functions of school and industry are studied. **Mr. Boshart.**

Ed. 416. Problems in Agricultural Teaching. 3-0-0 or 0-3-0 or 0-0-3

Prerequisite: Ed. 203, 307, and at least 12 other credits in Education and Agriculture. Experience in Agricultural Teaching will be accepted in lieu of Ed. 307.

Investigations, reports, and a critical evaluation of present practices with constructive remedies; course adapted to individual interests and needs. **Staff in Agricultural Education.**

Ed. 417. Principles of Agricultural Education. 3-0-0 or 0-3-0 or 0-0-3

Prerequisite: Eighteen credits in Education and Agriculture. Permission to register.

Principles and practices in Agricultural Education in the light of educational research and of changing rural conditions. **Mr. Cook.**

Ed. 420. Agricultural Education Seminar. 1-1-1

Prerequisite: Eighteen credits in Education.

A critical review of current articles and books of interest to students of Agricultural Education. **Mr. Cook, Mr. Armstrong.**

Ed. 421. Research in Education.**3-3-3**

The student will make a study of one or more research problems under the supervision of some member of the staff of the School of Education. The course will be selected on the recommendation of the member of the faculty with whom the student plans to carry on the study.

Staff in Education.

ELECTRICAL ENGINEERING**Courses for Undergraduates****E. E. 101. Electrical Engineering Fundamentals.****3-3-0 or 0-3-3**

Required of sophomores in E. E. Concurrent with Phys. 113. Prerequisite: Math. 102.

Fundamental laws of electric, magnetic and dielectric circuits; problem drill. Timble and Bush, *The Principles of Electrical Engineering*.

Mr. Browne.

E. E. 105. Electrical Equipment of Buildings.**0-0-3**

Required of juniors in Construction Engineering and seniors in Architectural Engineering. Prerequisite: Phys. 113.

Wiring of buildings for light and power; selection of motors and lighting equipment. Moyer and Wostrel, *Industrial Electricity and Wiring*.

Mr. Keever, Mr. Glenn.

E. E. 110. Electric Shop.**0-0-3**

A course offered for students in Vocational Education. Practical electrical problems suitable for secondary school; electrical shop equipment.

Credit is allowed only for students in the Department of Education.

Mr. Keever.

Courses for Advanced Undergraduates**E. E. 201. Electrical Engineering.****3-3-3**

Required of juniors in E. E. Prerequisite: E. E. 101.

Principles, performance and characteristics of direct current apparatus, electronics, theory of periodic currents, alternating current circuits and systems. Timble and Bush, *Principles of Electrical Engineering*. Klaffler, Brennenon and Kerchuer, *D. C. Machinery*. Bryant and Correll, *A. C. Circuits*.

Mr. Fouraker, Mr. Keever.

E. E. 202. Electrical Engineering Problems.**1-1-1**

Required of juniors in E. E. Concurrent with E. E. 201.

Supervised problem drill.

Mr. Fouraker.

E. E. 203. Electrical Engineering Laboratory. 2-2-2

Required of juniors in E. E. Concurrent with E. E. 201.

A laboratory course coördinated with E. E. 201. Ricker and Tucker, *Electrical Engineering Laboratory Experiments*.

Mr. Pearsall, Mr. Keever, Mr. Brown, Mr. Glenn, Mr. Winkler.

E. E. 220. Elements of Electrical Engineering I. 3-3-0 or 0-3-3

Required of juniors in Chem. E., C. E., H. E., Constr. E., and San. E., and of seniors in Cer. E., Geol. E., and Min. E., and in Industrial Management. Prerequisite: Math. 202, Phys. 113.

Principles, characteristics and operation of electric equipment and systems. Blalock, *Principles of Electrical Engineering*.

Mr. Pearsall, Mr. Keever, Mr. Glenn, Mr. Winkler.

E. E. 230. Elements of Electrical Engineering II. 4-4-4

Required of seniors in M. E. and of juniors in Industrial Engineering. Prerequisite: Math. 202, Phys. 113.

Principles, characteristics, and operation of electric equipment. Loew, *Direct and Alternating currents*.

Mr. Pearsall, Mr. Keever, Mr. Glenn, Mr. Winkler.

Courses for Graduates and Advanced Undergraduates**E. E. 301. Electric Distribution. 0-0-3**

Required of seniors in E. E. Prerequisite: E. E. 201.

Low voltage distribution systems. Mr. Browne.

E. E. 302. Alternating Current Machinery. 4-4-0

Required of seniors in E. E. Prerequisite: E. E. 201.

Principles and characteristics of alternating current machinery. Bryant and Johnson, *Alternating Current Machinery*. Mr. Fouraker, Mr. Brown.

E. E. 303. Electrical Engineering Laboratory. 2-2-2

Required of seniors in E. E. Concurrent with E. E. 301.

A laboratory course coördinated with classroom work. Ricker and Tucker, *Electrical Engineering Laboratory Experiments*.

Mr. Pearsall, Mr. Keever, Mr. Brown, Mr. Winkler.

E. E. 304. Electric Transmission. 0-0-4

Prerequisite: E. E. 302.

Theory and characteristics of electric circuits for high tension transmission of power. Bryant and Correll, *Alternating Current Machinery*.

Mr. Fouraker, Mr. Brown.

E. E. 305. Electric Power Applications (Optional with E. E. 306). 3-3-3

Prerequisite: E. E. 201.

Selection of electrical equipment for industrial applications, control equipment; electric traction, electric power plants. Mr. Browne.

E. E. 306. Electric Communication (Optional with E. E. 305). 3-3-3

Prerequisite: E. E. 201, 202.

Circuits and equipment for wire communication; radio and carrier current systems. Everitt, *Communication Engineering*. Mr. Fouraker.

E. E. 307. Illumination. 3-0-0

Required of seniors in E. E. Prerequisite: E. E. 201, 202.

Characteristics of electric lamps; electric lighting systems. Kurneth, *Text-book of Illumination*. Mr. Browne, Mr. Pearsall.

E. E. 308. Power Network Calculations. 0-0-3

Prerequisite: E. E. 302.

The method of symmetrical components applied to fault calculation in power system networks. Equivalent impedances of short and long lines with and without terminal grounding and for ground wires, transformer banks, synchronous machines, asynchronous machines. Syntheses of complete systems, with calculations of fault currents for different types of faults.

Mr. Brown.

E. E. 309. Electrical Measurements in Industry. 3-3-3

Prerequisite: E. E. 201 or E. E. 220 or E. E. 230.

Theory and practice of electrical measurements in industry. Instruments and motors, indicating, recording, and integrating types; bridges; potentiometers; thermo-couples; resistance pyrometers; electro-optical pyrometers; photo-electric cells and tubes; amplifiers; relays; strobo-scopes; humidity meters; electrical pressure gauges. A discussion of industrial applications and methods.

Mr. Brown.

Courses for Graduates Only**E. E. 401. Fundamental Principles in Electrical Engineering. 3-3-3**

Prerequisite: E. E. 301, 302.

Review of fundamentals in electrical circuit theory; operational calculus methods, transients in electrical, mechanical, and thermal circuits; transients in non-linear circuits; point-by-point solutions; power transmission; stability; control problems and design of control equipment; special applications.

Mr. Fouraker and Mr. Brown.

E. E. 403. Electrical Engineering Seminar. 1-1-1

Prerequisite: Graduation in E. E.

A series of papers and conferences of junior instruction staff and students who are candidates for advanced degrees in electrical engineering, held for the purpose of reviewing the developments in electrical engineering fields of practice and research. Special attention to be given to the methods of collecting, analyzing, and presenting data in a comprehensive manner.

Mr. Brown.

E. E. 404. Engineering Electronics.

4-4-4

Prerequisite: E. E. 201.

Electron tubes in industry, including studies of various types of tubes as rectifiers, amplifiers, oscillators, control devices, photo-electric devices, osciloscopes, etc. Electro-kinetic theory of gases, potential distributions, and characteristics of different types of conduction studied in detail. Associated circuits. This course includes coördinated laboratory experiments.

Mr. Brown.

E. E. 405. Illumination Engineering.

3-3-3

Prerequisite: E. E. 201.

Fundamental theory combined with broad survey of field, followed by detailed treatment of point sources, surface radiation, symmetric and asymmetric distribution; applications. The photo-chemical theory of vision, visual measurements, applications to design.

Mr. Brown.

E. E. 450. Electrical Engineering Research.

9 credits

Acceptance as candidate for Master's Degree.

Individual research in field of Electrical Engineering for the purpose of extending knowledge. Students may elect to conduct their research along technical electrical engineering lines, or in some allied field such as economics of engineering, mathematical methods, etc. Report shall be in form of Master's thesis.

Mr. Brown.

ENGINEERING MECHANICS**Courses for Advanced Undergraduates****E. M. 201. Engineering Mechanics (Abridged).**

3-0-0 or 0-3-0

Required of students in Cer. E., Ch. E., Geol. E., and I. E. Prerequisite: Math. 202. Co-requisites: Math. 203 and Phys. 104, first term.

Statics: Concurrent, parallel and non-concurrent force systems, the determination of their resultants and conditions of equilibrium. Friction, centroids and moments of inertia. Seely and Ensign, *Analytical Mechanics for Engineers*.
Messrs. Smith, Conner, and Bramer.

E. M. 202. Engineering Mechanics (Abridged).

0-3-0 or 0-0-3

Required of students in Cer. E., Ch. E., Geol. E., and I. E. Prerequisites: E. M. 201 and Math. 203.

Kinematics: The motion of bodies without considering the manner in which influencing factors affect the motion. Kinetics: The motion of bodies as affected by unbalanced forces. Seely and Ensign, *Analytical Mechanics for Engineers*.
Messrs. Smith, Conner, Bramer.

E. M. 211. Engineering Mechanics.

3-0-0 or 0-3-0 or 0-0-3

Required of all students in Engineering except Cer. E., Ch. E., Geol. E., and I. E. Also required of students in Agr. Eng. Prerequisite: Math. 201. Co-requisites: Math. 202 and Phys. 104, first term.

Statics and Friction: Study of concurrent, parallel and non-concurrent systems of both coplaner and non-coplaner forces. The application of statics to the solution of fundamental engineering problems, including statical friction. Seely and Ensign, *Analytical Mechanics for Engineers*.

Messrs. Smith, Conner, Bramer.

E. M. 212. Engineering Mechanics. 3-0-0 or 0-3-0 or 0-0-3

Required of all students in Engineering except Cer. E., Ch. E., Geol. E., and I. E. Also required of students in Agr. Eng. Prerequisites: E. M. 211 and Math. 202. Co-requisites: Math. 203.

Kinematics, centroids and moments of inertia. Seely and Ensign, *Analytical Mechanics for Engineers*.

Messrs. Smith, Conner, Bramer.

E. M. 213. Engineering Mechanics. 3-0-0 or 0-3-0 or 0-0-3

Required of all students in Engineering except Cer. E., Ch. E., Geol. E., and I. E. Also required of students in Agr. Eng. Prerequisites: E. M. 212 and Math. 203.

Kinetics: The motions of particles or rigid bodies as they are affected by the action of unbalanced forces. The Newtonian laws of motion, work and energy, power, impulse and momentum are studied and their applications to special engineering problems are illustrated. Seely and Ensign, *Analytical Mechanics for Engineers*.

Messrs. Smith, Conner, Bramer.

E. M. 220. Strength of Materials (Abridged). 3-0-0 or 0-0-3

Required of Engineering students in Chem. E., E. E., and Ind. E. Prerequisites: E. M. 202 or E. M. 212, Math. 203.

A study of the stresses and strains in engineering materials. The study includes tension, compression, shear and torsion; also bending moments and shear in beams. The fibre stresses in simple beams and their distribution throughout the cross section are analyzed. An elementary conception of the deflection of beams and working principles for the design of columns are discussed. Seely, *Resistance of Materials*.

Messrs. Smith, Mann, Conner, Bramer.

E. M. 221. Strength of Materials. 0-3-0 or 0-0-3

Required of all students in Engineering except Chem. E., E. E., Geol. E., and Ind. E. Prerequisites: E. M. 202 or E. M. 212, and Math. 203. Co-requisite: E. M. 213.

A study of the stresses and strains in engineering materials. The study includes tension, compression, shear, and torsion, with emphasis on the applications to engineering structures. Bending moments and shear in simple beams. The fibre stresses in beams and their distribution throughout the cross section are studied in detail. Timoshenko and McCullough, *Elements of Strength of Materials*.

Messrs. Smith, Mann, Conner, Bramer.

E. M. 222. Strength of Materials.

3-0-0 or 0-0-3

Required of all students in Engineering except Chem. E., E. E., Geol. E., and Ind. E. Prerequisite: E. M. 221.

A continuation of E. M. 221. Various methods are studied for finding the deflection of beams. The determination of stresses in statically indeterminate beams; the study of columns. Combined stresses. Timoshenko and McCullough, *Elements of Strength of Materials*.

Messrs. Smith, Mann, Conner, Bramer.

E. M. 230. Fluid Mechanics (Abridged).

3-0-0, 0-3-0, or 0-0-3

Prerequisites: E. M. 202 or E. M. 213.

Properties of fluids; statics of fluids; dynamics of fluids; applications to flow of fluids through jets, orifices, tubes, nozzles, weirs; friction losses; dynamic forces on fixed and moving vanes; theory of pumps and turbines. O'Brien and Hickok, *Applied Fluid Mechanics*.

Mr. Conner.

E. M. 231. Fluid Mechanics.

3-0-0 or 0-3-0

Prerequisites: E. M. 202 or 213.

Properties of fluids; statics of fluids; dynamics of fluids; streamlines; types of flow; energy relations; measuring instruments and devices; forces on fixed and moving vanes; lift and propulsion; circulation; blade element theory; flow of viscous fluids; viscosity; Reynolds number; laminar and turbulent flow; Hager-Poiseuille Law; Stokes Law; dimensional analysis. O'Brien and Hickok, *Applied Fluid Mechanics*.

Mr. Conner.

E. M. 232. Fluid Mechanics.

0-3-0 or 0-0-3

Prerequisites: E. M. 231.

Flow of fluids in pipes; types of flow; nature of resistance; effects of roughness; seventh-root law; energy relations; minor losses; pump or turbine in line; flow with free surface; equations; weirs; meters; flow through tubes and orifices; resistance of immersed and floating bodies; Froude's number; dynamics of compressible fluids; dynamic similarity, the Pi theorem; special topics and problems. O'Brien and Hickok. *Applied Fluid Mechanics*.

Mr. Conner.

Courses for Graduates and Advanced Undergraduates**E. M. 301. Advanced Strength of Materials.**

3-0-0

Elective for Engineering seniors and graduate students. Prerequisite: E. M. 220 or E. M. 222.

Detailed study of the deflections of beams, special types of beams, and statically indeterminate systems. Various methods of studying the topics will be discussed and compared. Timoshenko, *Strength of Materials*.

Mr. Smith.

Courses for Graduates Only

***E. M. 401. Advanced Strength of Materials. 0-3-0**

Prerequisites: E. M. 220 and E. M. 222, Math. 301.

A study of more advanced problems than taken up in C. E. 220 or C. E. 222. Energy of strain, Castigliano's Theorem, impact, Maxwell's Theorem, Mohr's circle. Timoshenko, *Strength of Materials*. Mr. Smith.

***E. M. 402. Applied Elasticity. 0-0-3**

**Prerequisites: E. M. 220 or E. M. 222, Math. 301.

Stress analysis of machine parts, stress concentration, stress in curved bars, torsion and bending in prismatical bars. Stress in thick-walled cylinders, fly wheels, shrink fits. Timoshenko, *Strength of Materials*. Mr. Smith.

***E. M. 403. Applied Elasticity. 0-3-0**

**Prerequisites: E. M. 301 or C. E. 313, Math. 301.

Thin bars, plates and slabs in compression, tension, or combined compression and tension. Built-up columns. Timoshenko, *Strength of Materials*. Mr. Smith.

***E. M. 404. Vibration Problems. 0-0-3**

**Prerequisites: E. M. 401, Math. 301.

Fundamental vibratory systems of one degree of freedom. Balancing of rotating systems, calculation of critical speeds of rotating shafts; vibrating instruments. Systems of several degrees of freedom. Den Hartog, *Mechanical Vibrations*. Mr. Conner.

***E. M. 405. Research in Strength of Materials. 3-3-3**

Special problems and investigations. Mr. Smith.

ENGLISH

Courses for Undergraduates

Eng. 101. Composition. 3-3-3

Required of all freshmen.

Illustrative readings; exercises in types of composition; long paper each term; collateral reading. Conferences. Staff.

Eng. 120. Business English. 3-0-0 or 0-3-0 or 0-0-3

Prerequisite: Eng. 101.

Practical application of the principles of composition; types of letters; form, style, and tone of effective correspondence; intensive word study. Conferences. Messrs. Wilson and Shelley.

* Not more than three of these courses will be given in any one year.

** Math. 302, 303 are desirable.

- Eng. 150. Principles of Journalism.** 0-3-0
Prerequisite: Eng. 101 or equivalent.
Newspaper methods and organization; simple forms of news writing; collateral readings. (Not offered in 1938-39.) Mr. Wynn.
- Eng. 160. Public Speaking.** 3-0-0 or 0-3-0 or 0-0-3
Prerequisite: Eng. 101 or equivalent.
Speech organization and effective delivery; extempore speeches; audience motivation and use of motivating process; acquisition of ease before audience. Messrs. Paget, Fountain, and Wynne.
- Eng. 162. Speech Adjustment.** 0-0-2
Prerequisite: Eng. 101.
Poise and pleasing communicative habits in all group contacts; habits of speech, posture, action, and language. Mr. Paget.

Courses for Advanced Undergraduates

- Eng. 220. Survey of English Literature.** 3-3-3
Prerequisite: Eng. 101.
Masterpieces in their literary and historical settings. Parallel readings for reports and discussions. Messrs. Campbell, Clark, and Hartley.
- Eng. 221. Survey of American Literature.** 3-3-0
Prerequisite: Eng. 101.
Masterpieces and outstanding types in their historical settings. Parallel readings for reports and discussions. Mr. Ladu.
- Eng. 223. The Modern Novel.** 3-0-0
Prerequisite: Eng. 101.
Analysis of representative novels of England and America, chosen to illustrate modern tendencies in subject matter and technique. Mr. Lyell.
- Eng. 226. Modern Drama.** 0-3-0
Prerequisite: Eng. 101.
Modern plays, beginning with Ibsen; contemporary English and American productions. Mr. Clark.
- Eng. 227. The Development of the Drama.** 0-0-3
Prerequisite: Eng. 101.
Origin, progress, and influence; plot, characterization, and interpretation of certain readings. Mr. Clark.

- Eng. 233. Southern Writers.** 0-0-0
 Prerequisite: Eng. 101.
 Important writers, with intensive study of Poe. W. G. Simms, Sidney Lanier, Joel Chandler Harris, George W. Cable, O. Henry, Ellen Glasgow, James Branch Cabell. Mr. Ladu.
- Eng. 235. Victorian Poetry.** 0-3-0
 Prerequisite: Eng. 101.
 Principal poets of the Victorian era; emphasis on Tennyson and Browning. Mr. Hartley.
- Eng. 236. English Prose of the Nineteenth Century.** 0-0-3
 Prerequisite: Eng. 101.
 Readings from the most important prose writers of the century—Coleridge, Hazlitt, Lamb, De Quincey, Macaulay, Newman, Carlyle, Ruskin, Huxley, Arnold, Pater, Stevenson, and others—with emphasis on the main trends of thought during the period. Mr. Campbell.
- Eng. 238. The Bible as Literature.** 0-0-3
 Prerequisite: Eng. 101.
 Selected books of the Old and New Testaments as literary and historical documents. (King James Version.) Mr. Ladu.
- Eng. 239. Modern Biography.** 0-3-0
 Prerequisite: Eng. 101.
 A study of short modern biographies by representative American and British writers; collateral reading in longer biographical works; reports and assignments for investigation. Mr. Marshall.
- Eng. 254. Agricultural News and Feature Writing.** 3-3-0
 Prerequisite: Eng. 101.
 Introduction to, and some practice in writing, simple news articles. Emphasis is placed on writing and class criticism of non-technical newspaper and magazine articles. Subjects determined by student's interest. Vocabulary building; collateral reading. Mr. Wynn.
- Eng. 259. Advanced Composition.** 0-0-3
 Prerequisite: Eng. 101.
 Based upon comprehensive practice of effective expression in the fundamental divisions of original composition, the course affords opportunity for creative effort in three or more of the following forms: fable, tale, short short-story, essay, travelog, poem, biographical sketch, and the one-act play. Mr. Shelley.
- Eng. 269. Parliamentary Practice.** 0-2-0
 Not to be counted toward the fulfillment of any requirement in English. Prerequisite: Eng. 101 or equivalent.
 Rules and customs of assemblies, including organization, motions; participation in and conduct of meetings; parliamentary strategy. Mr. Paget.

Courses for Graduates and Advanced Undergraduates

- Eng. 319. The Essay.** 0-3-0
 Prerequisite: Eng. 101.
 The writing and appreciation of literary, non-technical essays; papers and one longer essay; conferences. Mr. Harrison.
- Eng. 320. The Short Story.** 0-0-3
 Prerequisite: Eng. 101.
 An appreciation of the present-day short story through examination of development, structure, type, and style; a comprehensive term paper, or its equivalent in original short fiction. Mr. Wynne.
- Eng. 324. Technical Writing I.** 3-0-0 or 0-3-0 or 0-0-3
 (For students in Engineering.)
 Prerequisite: Eng. 101.
 Principles of writing engineering reports, articles, and papers for public delivery. Illustrative reading. Practice in short class papers and a term paper in thesis form. Mr. Harrison.
- Eng. 325. Technical Writing II.** 3-0-0 or 0-3-0 or 0-0-3
 (For students in Agriculture and Forestry.)
 Prerequisite: Eng. 101.
 Fundamentals of style in professional writing. Models of various types: reports, articles, papers. Practice in these types; a more formal term paper. Mr. Harrison.
- Eng. 326. Literary Masterpieces.** 3-0-0
 Prerequisite: Eng. 101.
 A background for the enjoyment of literature; an introduction to its appreciation and criteria. Mr. Harrison.
- Eng. 330. Shakespeare.** 3-0-0
 Prerequisite: Eng. 101.
 An analysis of principal plays. Reports on parallel readings. Mr. Clark.
- Eng. 332. The Romantic Period.** 0-3-0
 Prerequisite: Eng. 101.
 Representative poems of Gray, Blake, Burns, Wordsworth, Coleridge, Scott, Southey, Byron, Shelley, and Keats. Mr. Clark.
- Eng. 334. The Eighteenth Century.** 3-0-0
 Prerequisite: Eng. 101.
 English literature of the period from 1700 to 1770; content and critical importance emphasized. (Not offered in 1938-39.) Mr. Hartley.

Eng. 335. Milton. 0-0-3

Prerequisite: Eng. 101 and Eng. 220 or its equivalent.

Major and minor poems, with limited treatment of prose. (Not offered in 1938-39.) Mr. Shelley.

Eng. 337. Contemporary American Literature. 0-0-3

Prerequisite: Eng. 101.

Study of leading writers of present century, and an attempt to interpret works against social background of period. Mr. Ladu.

Eng. 338. Contemporary English Literature. 0-0-3

Prerequisite: Eng. 101.

An introduction to some of the outstanding English fiction and essay writers of the present century, such as Butler, Kipling, Conrad, Bennett, Galsworthy, and Wells. Class discussion; collateral reading. Mr. Wynn.

Eng. 352. Advanced Feature Writing. 0-0-3

Prerequisite: Eng. 101 and 254, or equivalent.

Practice in writing and criticizing non-technical articles. Subjects determined by student's interest. Vocabulary building; collateral reading. Mr. Wynn.

Eng. 361. Argumentation and Extemporaneous Speaking. 0-3-0

Prerequisite: Eng. 160 or equivalent.

Analysis, brief-drawing and evidence, and methods of proof and refutation; fundamentals of conviction; humanness and forcefulness; extempore speeches, debates, and discussions. Mr. Paget.

Eng. 362. Persuasion. 3-0-0

Prerequisite: Eng. 160 or equivalent.

Psychological forces, methods of conciliation, securing and holding attention, and winning response; extempore speeches and discussions. Mr. Paget.

Eng. 363. Public Address. 0-0-3

Prerequisite: Eng. 160 or equivalent.

Public addresses for special occasions, including announcement, speech of introduction, committee-room speech, personal conferences, after-dinner speech, speech at professional convention, political speech, college oration, formal sales talk. Mr. Paget.

FIELD CROPS—AGRONOMY**F. C. 101. General Field Crops.** 0-3-0 or 0-0-3

Required of sophomores in Agriculture.

A standard introductory course. Emphasis is given to the economic production of field crops as used in well-balanced cropping systems.

Mr. Cotner.

F. C. 105. Cotton.

3-0-0

Required of sophomores in Textile.

Lectures and recitations on history, botany, and physiology of the cotton plant; comparative study of varieties; microscopic studies of the fiber and a study of the physical properties of the fiber as it affects milling quality.

Mr. Cotner.

Courses for Advanced Undergraduates**F. C. 201. Cereal Crops.**

0-4-0

Prerequisite: F. C. 101. Required of juniors in Agronomy.

Advanced study of the various factors that should be considered in the economic production of corn and small grains.

F. C. 205. Legumes and Grasses.

0-0-4

Prerequisite: F. C. 101. Required of juniors in Agronomy and Animal Prod.

Advanced study of legumes and grasses as to their adaptation and uses. Emphasis is placed on their economic use in crop and livestock farming.

Mr. Cotner.

F. C. 210. Cotton Production.

0-0-3

Prerequisite: F. C. 101.

This course, or Agronomy 215, required of juniors in General Agriculture.

Lectures and recitations on history, production, adaptation, type, and varieties; cultivation, harvesting, grading, and marketing. Laboratory consists of variety studies and the classing of cotton lint.

Mr. Cotner.

F. C. 215. Tobacco Production.

0-3-0

Prerequisite: F. C. 101.

This course, or Agronomy 210, required of juniors in General Agriculture.

Lectures and recitations on history, production, adaptation, type, and varieties; cultivation, harvesting, grading, and marketing. Laboratory consists of variety studies and the grading of tobacco.

Mr. Cotner.

F. C. 220. Cotton Classing I.

0-3-0

Elective for juniors or seniors.

A study of the universal standards of American upland cotton for grade and staple. Factors that determine grade and how to improve them. Practice will consist of classing three to five thousand samples of North Carolina cotton.

Mr. Cotner.

F. C. 225. Cotton Classing II.

0-3-0

Required of sophomores in Textile Manufacturing, Chemistry and Dyeing, and Designing.

A study of the universal standards of American upland cotton for grade and staple. Factors that determine grade and their relative value. Practice will consist of classing and stapling three to five thousand samples of cotton.

Mr. Cotner.

Courses for Graduates and Advanced Undergraduates

- F. C. 302. Advanced Cotton Classing.** 3-3-3
Prerequisite: F. C. 101 or 105, 225, or 220.
For men who expect to become specialists in cotton classing.
This course will prepare men to take the U. S. Civil Service examination for cotton classing. Mr. Cotner.
- F. C. 303. Advanced Cotton Production.** 3-3-3
Prerequisite: F. C. 210.
Advanced study of cotton production problems. Mr. Cotner.
- F. C. 305. Crop Breeding.** 3-3-3
Special problems in inheritance and methods of investigation. A student may select a problem in any phase of plant breeding. Mr. Cotner.
- F. C. 325. Seed Certification Problems.** 0-3-0
Prerequisite: F. C. 101.
A study of standards of quality in field crops for certification.
- F. C. 330. Seed Judging.** 3-0-0
Elective for juniors and seniors. Prerequisite: F. C. 101, Botany 101 and 102.
Advanced study of quality in crop seeds and the standards for seed certification. Arranging and judging of crop exhibits.
- F. C. 332. Market Grading of Field Crops.** 3-0-0
Required of juniors in Animal Prod. Elective for juniors and seniors. Prerequisite: F. C. 101, Botany 101, 102.
A study and application of the Federal Standard for Market grades as applied to field crops.
- F. C. 334. Taxonomy of Field Crops.** 3-0-0
Elective for juniors and seniors. Prerequisite: F. C. 101, Botany 101, 102.
A study of the origin, botanical classification, identification and adaptation of the commercially important crops and their varieties grown in America.
- F. C. 340. Experimental Methods.** 0-3-0
Elective for juniors and seniors.
A study of the development in agricultural experimental work and the experimental technique as developed to date by soil fertility, crop and crop breeding tests and demonstrations.
- F. C. 345. Plant Breeding.** 3-0-0
Prerequisite: Zoology 304.
Lectures, field and laboratory exercises, including methods and principles of plant breeding. Mr. Cotner.

F. C. 350. Senior Seminar.

1-1-1

Prerequisite: Twelve credit hours in Field Crops. Elective for seniors.

Scientific articles, progress reports in research and special problems of interest to agronomists will be assigned, and reviewed with discussion by students and members of the Agronomy Staff.

Mr. Cotner.

F. C. 351. Crop Research.

3-3-3

Prerequisite: Twelve credit hours in Field Crops. Elective for seniors.

A study of research and demonstrations in crops. Emphasis will be placed on experimental tests in progress. Crops for special consideration will be assigned.

Mr. Cotner.

Courses for Graduates Only**F. C. 401. Crop Research.**

3-3-3

Prerequisite: Eighteen credit hours in Field Crops.

A study of special problems and methods of investigation. A student may select a problem in any phase of crop production.

Mr. Cotner.

F. C. 404. Advanced Tobacco Production.

3-3-3

Prerequisite: F. C. 215 and ten additional credit hours in Field Crops.

Advanced study of tobacco production problems.

Mr. Cotner.

F. C. 410. Seminar.

1-1-1

Prerequisite: Eighteen credit hours in Field Crops.

Scientific articles, progress reports in research and special problems of interest to Agronomists will be assigned, reviewed, and discussed by students and members of the Agronomy Staff.

Mr. Cotner.

F. C. 415. Plant Breeding Research.

3-3-3

Prerequisite: F. C. 345.

Inheritance problems of the plants. Available during any season appropriate to the study of the particular crop.

Mr. Cotner.

FORESTRY**Courses for Undergraduates****For. 101. Elementary Forestry.**

1-1-1

Required of freshmen in Forestry.

Study of the nature and development of forests of the world, with special study of the forests of the United States. A correlation of all sciences required in forestry. Field trips are included.

Mr. Hofmann.

For. 102. Wood Technology.

0-3-0

Required of sophomores in Forestry. Prerequisite: Bot. 204.

Microscopic slides of the conifers and broad-leaved trees are studied in order to determine the occurrence, form, and structure of the wood elements. Identification by means of the hand lens is especially emphasized.

Mr. Slocum.

For. 103. Timber Physics.

0-0-3

Required of sophomores in Forestry. Prerequisite: For. 102.

Mechanical properties of wood. Strength tests. Methods of testing.
Growth conditions that produce the best timber for specific purpose.

Mr. Slocum.

For. 104. Principles of Forestry.

3-0-0

Required of sophomores in Agriculture.

Elective for junior and senior students not in Forestry.

Forest conditions in the United States and the relation of the forest problems to other fields of industry. World forests as related to local and national problems.

Mr. Slocum.

Courses for Advanced Undergraduates**For. s200. Mensuration III.**

3 credits

Sophomore summer camp. Prerequisite: C. E. 216.

Field data for stand and yield tables, stem analysis and timber surveys.

Mr. Slocum, Mr. Miller.

For. 201, 202. Mensuration I, II.

0-3-3

Required of juniors in Forestry. Prerequisite: For. s200.

The measurement of timber, both standing and felled; log rules, form factors, stem analysis and growth.

Methods of making volume, growth, and stand tables. Increment and yield studies.

Development of stand and yield tables from field data. Timber surveys.

Mr. Slocum.

For. s203. Silviculture.

3 credits

Sophomore summer camp. Prerequisites: Bot. 207.

Study of growth and development of forest stands. Establishment and measurement of sample plots.

Mr. Miller, Mr. Slocum.

For. 204. Silviculture I.

3-0-0

Required of juniors in Forestry. Prerequisite: For. s203.

Factors affecting tree growth and distribution. Forest regions, sites, stands, and types. Silvical requirements of important tree species.

Mr. Miller.

For. 205. Silviculture II.

0-3-0

Required of juniors in Forestry. Prerequisite: For. 204.

Production, collection, extraction, storage, and planting of forest tree seeds.

Mr. Slocum.

For. 205-A. Nursery Practice.

0-0-1

Prerequisite: For. 205.

Preparation, seeding, watering and weeding of seed beds in school nursery.

Mr. Slocum.

For. 206. Forest Products.

3-0-0

Required of seniors in Forestry. Prerequisite: For. 102.

A study of the source and method of obtaining derived and manufactured forest products other than lumber. Mr. Wyman.

For. 207. Forest Utilization.

0-0-2

Required of seniors in Forestry. Prerequisite: For. 206.

The problems of more complete utilization of our forest resources. Utilization of present waste in commercial practice. Mr. Wyman.

For. 208. Timber Preservation.

3-0-0

Elective for juniors in Forestry. Prerequisite: For. 102.

Lumber and timber preservatives and their use. Methods of preservation. Relation of preservation to forestry and industry. Field trip to industrial plant. Mr. Slocum.

For. s211. Dendrology.

3 credits

Sophomore summer camp. Prerequisite: Bot. 207.

Identification and study of trees in Piedmont, Coastal and Mountain sections of North Carolina. Mr. Slocum, Mr. Miller.

Courses for Graduates and Advanced Undergraduates**For. 301. Silviculture III.**

3-0-0

Required of seniors in Forestry. Prerequisite: For. 205.

Methods of cutting to secure natural regeneration. Intermediate cuttings and their effect on the stand. Forest protection. Mr. Miller.

For. 302. Silviculture IV.

0-3-0

Required of seniors in Forestry. Prerequisite: For. 301.

The application of silvicultural methods in the forests of the United States. Mr. Miller.

For. 303. Logging.

3-0-0

Required of seniors in Forestry. Prerequisite: For. 204.

The logging industry and transportation methods. Logging costs. Application of methods to specific conditions. All forest regions are covered, discussing the problems of each. Mr. Wyman.

For. 304. Lumbering.

0-3-0

Required of seniors in Forestry. Prerequisite: For. 303.

The manufacture and remanufacture, transportation and handling of lumber. Grades and grading of lumber. Mr. Wyman.

For. 305. Lumber Seasoning.

0-0-2

Required of seniors in Forestry. Prerequisite: For. 304.

Air-seasoning and kiln-drying of lumber. Kiln construction and operation. Defects and their control. Mr. Wyman.

For. 306, 307. Forest Management. 3-3-0

Required of seniors in Forestry. Prerequisite: For. 202, 205.

The principles of management of timber lands for economic returns. The normal forest is taken as the ideal. The application of regulation methods to the forest. A typical working circle as developed by the United States Forest Service is studied for each forest region. Mr. Hofmann.

For. 308. Forest Finance. 0-3-0

Required of juniors in Forestry.

Prerequisite: Econ. 312.

Forests as investments, interest, carrying charges, financial maturity, and relation of intermediate to final and net incomes. Forest taxation, hazards in forest investments, and forest insurance. Mr. Wyman.

For. 309. Timber Appraisal. 0-0-2

Required of seniors in Forestry. Prerequisite: For. 308.

Field and office methods of valuing timber lands, with special reference to stumpage appraisal; the evaluation of damages to timber and forest property. Mr. Wyman.

For. 310. Seminar. 0-2-0

Required of seniors in Forestry.

A round-table discussion of forestry problems, trends of development in forestry matters and related sciences. Forestry Faculty.

For. 311. Methods of Research in Forestry. 0-0-3

Required of juniors in Forestry.

Methods of research used by the United States Forest Service, experiment stations, the Madison Laboratory, and State and private research organizations. Sample plot technique. Mr. Miller.

For. 312. Forest Management Problems. 0-0-3

Elective for seniors; time arranged.

The student must select some specific area on which all the phases of management may be worked out. Mr. Hofmann.

For. 313. Advanced Silviculture Problems. 3-3-3

Elective for seniors; time arranged.

Assigned problems or research experiments to be carried out to completion by the student. A written report of procedure and results will be required. Mr. Miller.

For. 314. Advanced Logging Problems. 3-3-3

Elective for seniors; time arranged.

Assigned or selected problems in logging in specified regions. A complete written report required for credit. Mr. Wyman.

For. 315. Advanced Manufacturing. 3-3-3

Elective for seniors; time arranged.

Assigned or selected problems applying to the manufacture or remanufacture of lumber. A complete written report required for credit.

Mr. Wyman.

For. 316. Advanced Utilization Problems. 3-3-3

Elective for seniors; time arranged.

Assigned or selected problems dealing with some special phase of the utilization of forest resources. A complete written report required for credit.

Mr. Wyman.

For. 317. Senior Field Trip. 0-0-3

Required of seniors in Forestry. Prerequisites: For. 207, 305.

An extensive survey of logging, lumbering and utilization of forest products throughout the Southeast. A complete series of reports covering all plants and operations visited is required.

Mr. Wyman.

Courses for Graduates Only**For. 401. Forest Valuation.** 3-3-3

Planning, organizing, and conducting, under general supervision, an important research project in one of the fields of valuation.

Mr. Wyman.

For. 402. Problems in Research. 3-3-3

Specific forestry problems that will furnish material for a thesis.

Mr. Miller.

GEOLOGY**Courses for Undergraduates****Geol. 101. Earth History.** 0-3-0

Elective for freshmen and sophomores in General Science. Not to be taken after Geol. 120 or 125.

Introductory course in General Geology: changes in the earth, and underlying physical and life processes. Bradley, *The Earth and Its History*.

Mr. Stuckey.

Geol. 120. Physical Geology. 4 or 4 or 4

Required of freshmen in Basic Agriculture, of sophomores in Forestry and Landscape Architecture, of teachers of Agriculture, and of Science teachers in Education.

Physical Geology as related to forces acting in and on the earth, and materials of the earth's crust. Longwell, Knopf and Flint, *Outlines of Physical Geology*.

Mr. Stuckey, Mr. Parker.

Geol. 125. Historical Geology.

0-3-0

Prerequisite: Geol. 120 or 201.

Required of sophomores in Geological Engineering and of Science teachers in Education.

Sequence of events in development of the geology of the North American Continent. Schuchert, *Outlines of Historical Geology*. Mr. Parker.

Courses for Advanced Undergraduates**Geol. 201. Engineering Geology.**

3-0-0 or 0-0-3

Required of sophomores in Agricultural, Ceramic, Civil, and Geological Engineering, and of juniors in Highway and Sanitary Engineering.

The principles of general geology and their application to engineering problems. Ries and Watson, *Elements of Engineering Geology*.

Mr. Stuckey.

Geol. 205. Physiography.

0-0-3

Required of juniors in Geological Engineering and of History and other Social Science teachers in Education.

Evolution of the physical features of the earth and the agencies which influence their development. Tarr and Von Engeln, *New Physical Geography*.

Mr. Stuckey.

Geol. 207. Ex. Physical Geography.

3-3-0

A. The processes and forces involved in the development of land forms.

B. The physiographic provinces of the United States and their importance. Some special study of the physical geography of North Carolina.

Mr. Stuckey.

Geol. 230. Mineralogy.

3-0-0 or 0-0-3

Required of sophomores in Ceramic and Geological Engineering, and of juniors in Chemical Engineering.

Crystallography, and Physical and Chemical Mineralogy. Kraus and Hunt, *Mineralogy*. Mr. Stuckey.

Geol. 235. Advanced Mineralogy.

0-3-0

Prerequisite: Geol. 230.

Required in Geological Engineering.

A continuation of Geol. 230. Special attention to chemical and blowpipe properties of a larger group of important minerals. Mr. Stuckey.

Geol. 238. Thermal Mineralogy.

0-3-0

Required of juniors in Cer. E. Prerequisite: Geol. 230.

Special attention is given to the thermal and chemical properties of minerals. Mr. Stuckey.

Geol. 250. Structural Geology. 0-3-0

Prerequisite: Geol. 120 or 201.

The arrangement and deformation of the different rock masses composing the earth's crust. Nevin, *Principles of Structural Geology*. Mr. Parker.

Geol. 280. Geology and Mineral Resources of North Carolina. 3-0-0

Prerequisite: Geol. 101 or 120 or 201.

Physical geography, general geology, common rocks and minerals, and mine and quarry products of the State. Mr. Stuckey.

Courses for Graduates and Advanced Undergraduates**Geo. 301. Optical Mineralogy.** 3-3-3

Prerequisite: Geo. 230, and Physics 101 or 104.

Required of seniors in Ceramic and Geological Engineering.

Theory of light as applied to the polarizing microscope, practice in determining minerals in thin sections and by immersion methods. Rogers and Kerr, *Thin-Section Mineralogy*. Mr. Stuckey, Mr. Parker.

Geol. 303. Petrology. 3-0-0

Prerequisite: Geol. 120 or 201 and General Chemistry.

Required of juniors in Geological Engineering.

Materials of the earth's crust; rock-forming minerals; identification, origin, classification, and distribution of rocks; important rocks for building and ornamental purposes. Pirsson, *Rocks and Rock Minerals*. Mr. Parker.

Geol. 305. Economic Geology. Non-Metals. 0-3-0

Prerequisite: Geol. 120, 230, and Chemistry 101, 103, 105.

Required of seniors in Geological Engineering.

Mode of occurrence, association, origin, and uses of non-metallic minerals. Ries, *Economic Geology*. Mr. Stuckey.

Geol. 306. Economic Geology. Metals. 0-0-3

Prerequisite: Geol. 120, 230, and Chemistry 101, 103, 105.

Required of seniors in Geological Engineering.

Mode of occurrence, association, origin, and uses of leading metal-bearing minerals. Ries, *Economic Geology*. Mr. Stuckey.

Geol. 310. Mining Engineering. 3-3-3

Prerequisites: Geol. 201, 230, and C. E. 207. Required of seniors in Geological Engineering.

Methods of mining, both open cut and underground. Mine examination and valuation, ore dressing. Mr.

Geol. 320. Advanced Engineering Geology. 3-0-0

Prerequisite: Geol. 250 and 303.

Required of seniors in Geological Engineering.

Analysis of geologic factors in relation to specific engineering projects.

Mr. Stuckey.

Geol. 321. Stratigraphy and Index Fossils. 0-3-0

Prerequisite: Geol. 125 and 303.

Required of seniors in Geological Engineering.

Distribution and conditions of origin of principal geologic formations in North America. Key fossils characteristic of each period.

Mr. Stuckey and Mr. Parker.

Geol. 322. Field Methods. 0-0-3

Prerequisite: Geol. 250 and 303.

Required of seniors in Geological Engineering.

Methods of field observation and the use of geologic surveying instruments. Construction of a complete geologic map of a specific area.

Mr. Parker.

Courses for Graduates Only

Geol. 405. Advanced Economic Geology. 3-3-0

Prerequisite: Geol. 301, 305, 306.

Detailed study of the origin and occurrence of specific mineral deposits.

Mr. Stuckey.

Geol. 410. Advanced Petrography. 0-0-3

Prerequisite: Geol. 301 and 303.

Application of the petrographic microscope to the systematic and descriptive study of rocks.

Mr. Stuckey and Mr. Parker.

Geol. 420. Geological Research. 3-3-3

Prerequisite: Twelve credits in Geology.

Lectures, reading assignments, and reports. Special work in Geology to meet the needs and interests of the students.

Mr. Stuckey, Mr. Parker.

HIGHWAY ENGINEERING

Courses for Advanced Undergraduates

H. E. 201. Highway Engineering I. 0-3-3

Prerequisite: C. E. 206.

Required of all juniors in Civil Engineering.

History, economics, and administration of highways; construction and maintenance of highways; field and office methods; grading and drainage.

Bruce, *Highway Design and Construction*.

Mr. Tucker.

H. E. 204. Materials Testing Laboratory. 2-0-0 or 0-1-1

Prerequisite: C. E. 201.

Required of seniors in Civil Engineering and one term only for juniors in A. E. and Cer. E.

The testing of materials used in construction. For the students in Civil and Highway Engineering, emphasis is placed on those materials used in road construction; for the students in Architectural and Construction Engineering, emphasis is placed on those materials used in the building industry.

Tucker, *Manual in the Testing of Materials*.

Mr. Tucker.

Courses for Graduates and Advanced Undergraduates**H. E. 301. Highway Engineering II.** 3-3-0

Prerequisite: H. E. 201.

Required of seniors in H. E.

The economic location of highways; design and construction of high-type pavements; administration of city streets. Besson, *City Pavements. Lectures and Notes.* Mr. Tucker.

H. E. 302. Transportation. 0-0-3

Prerequisite: H. E. 201.

Required of seniors in C. E. and H. E.

The transportation systems; development and uses; operation and maintenance; control and methods of taxation. *Lectures and Notes.*

Mr. Tucker.

H. E. 303. Highway Office Practice and Design. 1-1-0

Prerequisite: H. E. 201.

Required of seniors in H. E.

The preparation of road plans, the calculation of yardage and balancing of quantities; the design of sections; plans for drainage structures and short-span bridges. *Lectures and Notes.* Mr. Tucker.

Courses for Graduates Only**H. E. 401. Highway Research.** 3-3-3

Prerequisite: Eighteen term credits in H. E.

A study of the important research projects in the field of highway transport or that of highway engineering. The first term is usually given to the preparation of a bibliography of highway research projects; the second term is devoted to the preparation of papers on the results of specified research projects; while the third term is devoted to original research and investigation. Mr. Tucker.

HISTORY AND GOVERNMENT**Courses for Undergraduates****Hist. 101. Economic History.** 3-3-3

An analytical examination of the important changes in the organization of European society and the forces which produced these changes during the periods of expansion and industrialization, as a background for a general treatment of the agricultural, industrial, and commercial development of the United States. Mr. Bauerlein, Mr. Seegers.

Hist. 104. World History. 2-2-2

Required of freshmen or sophomores who do not take Military Science.

A general survey of the development of institutions and culture in the Western world. Mr. Barnhardt.

Courses for Advanced Undergraduates

Gov. 200. American Government. 3-3-3
Elective.

The organization and activities of national, state, and local governments; party politics; economic, social, and legal factors of government.

Mr. Lockmiller.

Hist. 201. History of the United States. 3-3-3
Prerequisite: Hist. 101.

A chronological treatment of the political, diplomatic, and constitutional history of the United States in the light of its economic and social significance.

Mr. Bauerlein.

Hist. Ex. 203. Medieval History. 3 credits

A survey of the political, social, economic, ecclesiastical, and cultural history of Europe from the fifth century to the close of the fifteenth century.

Mr. Barnhardt.

Hist. 204. History of Modern and Contemporary Europe. 3-3-3
Elective. Prerequisite: Hist. 101 or 104.

Renaissance and reformation; agricultural, industrial, and commercial revolutions; dynastic and colonial rivalries; the French Revolution and reaction following 1815; spread of democracy and nationalism; modern agriculture, industry, commerce, labor, and tariff; the expansion of Europe and the background of the World War; the war and problems of post-war Europe.

Mr. Barnhardt.

Gov. 206. Modern Governments. 3-0-0
Elective. Prerequisite: Gov. 200.

A comparative study of the governments of England, France, Germany, Italy, Russia, and other countries to be selected.

Mr. Barnhardt.

Courses for Graduates and Advanced Undergraduates

Gov. 300. American Political Parties. 0-3-0
Elective. Prerequisite: Gov. 200.

The origin and development of political parties in the United States, their functions, organizations, finance, campaign methods, and elections. (Not offered in 1938-39.)

Mr. Lockmiller.

Hist. 303. North Carolina History. 0-3-0
Prerequisite: Hist. 101.

A general survey of the political, social, and economic history of North Carolina, with special emphasis on the nineteenth and twentieth centuries.

Mr. Barnhardt.

- Hist. 307. Economic and Social History of the South.** 3-3-3
 Elective. Prerequisite: Hist. 101.
 Intensive study of the economic and social history of the Southern States.
 Mr. Lockmiller.
- Hist. 310. American Biography.** 0-3-0
 Elective. Prerequisite: Hist. 101 and six hours additional History.
 Representative men and women in American politics, law, religion, agriculture, industry, commerce, science, literature, and art. (Not offered in 1938-39.)
 Mr. Lockmiller.
- Hist. 318. Economic and Social History of Agriculture.** 0-0-3
 Required of seniors in Agricultural Administration; elective for others.
 Prerequisite: Hist. 101 and six additional hours in History.
 Influence of agriculture on national and world issues; the economic and social status of the farmer, with special emphasis on the United States.
 Mr. Seegers.
- Hist. Ex. 320. History of Modern England.** 3 credits
 Survey of English political, social, economic, and diplomatic history, with emphasis on the last century.
 Mr. Barnhardt.
- Hist. Ex. 321. The Latin American Republics.** 3 credits
 Social, economic, and political development of Latin America since 1810.
 Mr. Lockmiller.
- Hist. Ex. 322. Contemporary History of the United States.** 3 credits
 Significant developments in the United States since 1914, with particular emphasis on post-war problems, foreign affairs, and the "New Deal."
 Mr. Lockmiller.

HORTICULTURE

Courses for Undergraduates

- Hort. 101. General Horticulture.** 0-0-3
 Required of sophomores in Agriculture.
 A course designed to give a general insight into the field of horticulture, including geographic centers of production and elements of culture of fruits, vegetables, and floricultural crops.
 Mr. Gardner, Mr. Randall.
- Hort. 102. Plant Propagation and Nursery Practice.** 3 or 3 or 3
 Elective for juniors.
 Study of methods and practice in seedage, cuttage, separation and division, budding and grafting. Cultural principles and practices in growing nursery stock.
 Mr. Randall, Mr. Weaver.

Hort. 105. Small Fruits and Grapes. 3-0-0

Prerequisite: Hort. 101.

A course in the culture and production of small fruits including strawberries, dewberries, blackberries, blueberries, raspberries, currants, and grapes. Mr. Gardner.

Courses for Advanced Undergraduates**Hort. 201. Fruit and Vegetable Judging. 2-0-0**

Prerequisite: Hort. 101.

Practice in variety identification, in judging plates, collections, boxes, and commercial exhibits of fruits and vegetables.

Mr. Gardner, Mr. Randall.

Hort. 205. Fruit Growing. 4-0-0

Prerequisite: Hort. 101.

A study of factors underlying fruit production; temperature and moisture relations, culture, fertilization, pruning, fruit setting, yield and storage.

Mr. Gardner.

Hort. 206. Systematic Pomology. 2-0-0

Prerequisite: Hort. 101, 205.

Fruit varieties: Their description, identification, nomenclature, and classification; their relationships and adaptations. Judging methods and standards.

Mr. Gardner.

Hort. 209. Vegetable Gardening. 0-0-4

Prerequisite: Hort. 101.

Location, soil preparation, fertilization, irrigation, and general culture applicable to commercial vegetable production.

Mr. Randall.

Hort. 210. Commercial Floriculture. 4-0-0

Prerequisite: Hort. 101, 102.

A study of the commercial production of the principal floral crops under protection and in the open, including actual planting and care of the crops.

Mr. Randall.

Hort. 211. Vegetable Forcing. 0-3-0

Prerequisite: Hort. 101, 209.

Production and management of vegetable crops under glass. Practice in growing vegetables under protection.

Mr. Randall.

Hort. 212. Systematic Olericulture. 2-0-0

Prerequisite: Hort. 209.

Vegetable varieties; their description, identification, nomenclature and classification; their relationships and adaptations.

Mr. Randall.

Hort. 228. Home Floriculture.

0-0-3

Principles and methods of growing garden flowers and house plants, including varieties and their adaptability. Mr. Randall.

Courses for Graduates and Advanced Undergraduates**Hort. 301. Experimental Horticulture.**

0-3-0

Prerequisite: Hort. 205, 209, 210.

A systematic study of the sources of knowledge and results of experiments in pomology, olericulture, and floriculture. Mr. Gardner, Mr. Randall.

Hort. 304. Horticulture—Problems.

2-2-2

Prerequisite: Twelve credit hours in Horticulture.

Systematic investigation of some phase of Horticulture. Each student chooses his own subjects of study and pursues it independently, under direction of the instructor. Mr. Gardner, Mr. Randall.

Hort. 308. Senior Seminar.

1-1-1

Prerequisite: Twelve credit hours in Horticulture.

A discussion of problems of interest to Horticulturists. Discussion topics assigned to students and members of the Horticultural staff.

Mr. Gardner.

Courses for Graduates Only**Hort. 403. Methods of Horticultural Research.**

3-3-3

Prerequisite: Eighteen credit hours in Horticulture.

A study of methods and procedure, outlining problems, assembling and analyzing data, and presenting results; critical review of experiment station work. Staff.

Hort. 404. Seminar.

1-1-1

Required of graduate students only. Prerequisite: Eighteen credit hours in Horticulture.

Assignment of scientific articles of interest to horticulturists for review and discussion; student papers and research problems for discussion.

Mr. Gardner.

Hort. 405. Research.

3-5, 3-5, 3-5

Prerequisite: Eighteen credit hours in Horticulture.

Graduate students will be required to select problems for original research in pomology, olericulture, or floriculture. The work and presentation of results should be of such merit as to be worthy of publication.

Staff.

INDUSTRIAL ENGINEERING

Courses for Undergraduates

I. E. 101. Industrial Organization. 3-3-3

Required of sophomores in I. E.

Engineering methods in studies of industrial enterprises. Kimball, *Industrial Organization*. Mr. Shaw.

Courses for Advanced Undergraduates

I. E. 213. Engineering Economics. 3-0-0 or 0-3-0 or 0-0-3

Required of seniors in E. E. and I. E. Prerequisite: Econ. 102 or 103.

Principles of investments, costs and utility with applications to engineering practice. Choice of investments and replacements. Grant, *Principles of Engineering Economy*. Mr. Shaw.

I. E. 220. Management Engineering. 3-3-3

Required of juniors in I. E. Prerequisite: Econ. 103, I. E. 101.

Principles of management, administration, production, and sales. Executive control, industrial relations, incentives, normal capacities, standard costs, and pricing. Budgeting and planning. Mr. Shaw.

I. E. 222. The Electrical Industry. 0-3-0

Required of seniors in E. E. and I. E. Prerequisite: I. E. 213.

The operation, practices, management, and performance of electric light and power companies and other electrical industries. Factors, indexes, and comparisons. Services and prices. Cost analyses and pre-determinations. *Uniform System of Accounts for Electrical Utilities*. Mr. Shaw.

Courses for Graduates and Advanced Undergraduates

I. E. 312. Engineering Economics Advanced. 0-3-3

Elective. Prerequisite: I. E. 213.

Comprehensive study of the application of economics to the practice of engineering. Mr. Shaw.

I. E. 320. Public Utilities. 3-3-3

Elective for seniors in engineering. Prerequisite: Econ. 102 or 103.

Public utilities and their regulation. Services, rates, rate bases, and returns. Commission laws and procedure. Leading cases. Current problems. Mosher and Crawford, *Public Utility Regulation*. Mr. Shaw.

I. E. 330. Industrial Engineering Problems. 0-3-3

Required of seniors in I. E. Prerequisite: or concurrent: I. E. 220.

Detailed study of problems of moment in this rapidly developing field.

Mr. Shaw.

- I. E. 331. Investigation and Report.** 0-0-3
Required of seniors in I. E. Prerequisite: Senior standing.
Investigation of a selected and approved problem. Mr. Shaw.

Courses for Graduates Only

- I. E. 410. Industrial Engineering Research.** 3-3-3
Prerequisite: Graduation in Engineering.
Investigation of problems of major importance in the field of Industrial Engineering. Mr. Shaw.

LANDSCAPE ARCHITECTURE

Courses for Undergraduates

- L. A. 106. Arboriculture.** 1-1-2
Required of freshmen in Landscape Architecture.
Culture of plant materials, their planting, transplanting, training, fertilization, and protection from pests, tree surgery, and lawn making.
Messrs. Pillsbury and Weaver.

Courses for Advanced Undergraduates

- L. A. 203. Ornamental Plants.** 0-2-0
Elective for juniors or seniors in all schools.
Ornamental trees, shrubs, and vines; their characteristics of use in planting design for home, school, church, and community-center grounds, and farmstead landscapes. Mr. Randall.
- L. A. 204. Landscape Gardening.** 0-0-3
Elective for seniors in all schools. Prerequisite: L. A. 203.
Landscape planning and planting design applied to the improvement of home, school, church, and community-center grounds, and the farmstead. Practice in methods of making measured surveys, mapping, and designing improvements and planting. Mr. Pillsbury.
- L. A. 216. Plant Materials: Woody Plants.** 2-2-2
Required of sophomores in Landscape Architecture. Prerequisite: Bot. 204.
Trees, shrubs, and vines; their distribution, form and habits of growth, size, texture, color, and other characteristics determining use in planting design. Mr. Randall.
- L. A. 217. Plant Materials: Herbaceous Plants.** 0-0-2
Required of juniors in Landscape Architecture. Prerequisite: Bot. 204.
Ornamental perennial and annual plants as to height, habit of growth, texture, color, and other characteristics determining use in planting design. Mr. Randall.

L. A. 218. Theory of Landscape Design. 0-3-3

Required of sophomores in Landscape Architecture.

Introduction to the study of landscape design; its theoretical basis; the meaning of taste; historic styles; elements and landscape composition; planting design, and analyses of typical problems in landscape design.

Mr. Pillsbury.

L. A. 219. History of Landscape Design. 3-3-0

Required of juniors in Landscape Architecture.

History of the art of landscape design from the ages of antiquity to modern times. Sketching from illustrations of design in important periods.

Mr. Pillsbury.

L. A. 220. Landscape Design I. 4-4-4

Required of juniors in Landscape Architecture. Prerequisite: L. A. 218.

Problems in presentation, and in consecutive design of small properties, gardens, and other special areas and suburban estates.

Mr. Pillsbury.

L. A. 221. Planting Design. 3-3-3

Required of seniors in Landscape Architecture. Prerequisite: L. A. 216, 217.

Problems in composition with plant materials, presentation, the preparation of planting plans, and cost data.

Mr. Pillsbury.

L. A. 222. Landscape Design II. 4-4-4

Required of seniors in Landscape Architecture. Prerequisite: L. A. 220.

Problems in presentation, and in the design of small parks, and other public grounds, and institutional groups.

Mr. Pillsbury.

L. A. 223. City Problems. 0-3-0

Required of seniors in Landscape Architecture.

Origins and types of urban communities; modern city and town planning; legal, economic, social, and æsthetic phases and their inter-relationships; fundamental data required; methods of planning and financing; zoning, city and regional planning legislation.

Mr. Pillsbury.

L. A. 224. Suburban Design. 0-4-0

Prerequisite: L. A. 220, 223.

The subdivision of land as related to suburban development and urban growth.

Mr. Pillsbury.

L. A. 225. Landscape Construction. 2-2-2

Required of seniors in Landscape Architecture. Prerequisite: C. E. 207, 208.

Problems in design of ground surface, walks, and drives; preparation of plans for grading and drainage; estimates of materials and costs, and methods of execution of landscape designs.

Mr. Pillsbury.

L. A. 226. Office Practice.

0-0-1

Prerequisite: L. A. 225.

Arrangement of equipment, supplies, data, illustrative and other material in landscape offices; methods of professional procedure, and professional ethics. Mr. Pillsbury.

LIBRARY METHODS**L. M. 300. Use of the Library.**

0-3-0 or 0-0-3

Elective for students in all schools. Prerequisite: Junior standing.

Instruction by lectures, assigned readings, and problems in the use of the card catalog, reference books and library methods in general. The course is planned to make the student self-directing in locating information and to demonstrate the value of the library and books for the student in college and after graduation. Mr. Kellam.

MATHEMATICS**Courses for Undergraduates*****Math. 100 a-b-c. Mathematical Analysis.**

3-3-3

Math. 100-a. Fall term (Algebra).

Review of elementary topics, such as Factoring, Fractions, Simple Equations, Exponents, and Radicals. Topics then taken up are Quadratic Equations, Solution of Higher Degree Equations, Simultaneous Quadratic Equations, Logarithms, the Binomial Theorem, Arithmetic and Geometric Progressions, Permutations, Combination, and the Elementary Theory of Probability. Lee, *A Course in Mathematics for Freshmen. Part I Algebra.*

Math. 100-b. Winter term (Trigonometry).

The study of the Trigonometric Functions with their applications to the solution of the right and oblique triangles, with numerous problems. Also a brief study of Trigonometric Equations and Identities and Inverse Functions. Practical Mensurations of Solids is taken up. Lee, *A Course in Mathematics for Freshmen. Part II Trigonometry.*

Math. 100-c. Spring term (Mathematics of Finance).

The principal topics are Simple and Compound Interest, Annuities, Sinking Funds and Amortization, and the Valuation of Bonds and other applications. Lee, *A Course in Mathematics for Freshmen. Part III Mathematics of Finance.* Staff.

***Math. 101. Algebra.**

6-0-0

Required of freshmen in the Schools of Engineering and Textile, and in the departments of Industrial Management, Industrial Arts, and Landscape Architecture.

This course includes quadratic equations, the progressions, the binomial theorem, permutations and combinations, logarithms, the general theory of equations, and the solution of higher equations. Fisher, *College Algebra.* Staff.

* This course will be repeated the following term.

***Math. 102. Trigonometry.**

0-6-0

Required of freshmen in the Schools of Engineering and Textile, and in the departments of Industrial Management, Industrial Arts, and Landscape Architecture.

The trigonometric functions, derivation of formulæ, the solution of plane and spherical triangles, with practical applications. Palmer and Leigh. *Plane and Spherical Trigonometry.* Staff.

***Math. 103. Analytical Geometry.**

0-0-6

Required of freshmen in the School of Engineering and in the departments of Industrial Management, Industrial Arts, and Landscape Architecture.

Prerequisite: Math. 101, 102.

Loci of equations, the straight line, circle, parabola, ellipse, hyperbola, the general equation of the second degree, polar coördinates, transcendental curves, parametric equations, coördinates in space, planes and surfaces. Love, *Elements of Analytical Geometry.* Staff.

Courses for Advanced Undergraduates

***Math. 201. Differential Calculus.**

4-0-0

Required of sophomores in Engineering. Prerequisite: Math. 103.

An elementary course in the fundamental principles of the Calculus, including the formulæ for differentiation, with applications to Geometry and to problems in rates, maxima and minima, curve tracing, and curvature. Granville, Smith, Longley, *Elements of the Differential and Integral Calculus.* Staff.

***Math. 202. Integral Calculus I.**

0-4-0

Required of all sophomores in Engineering. Prerequisite: Math. 201.

Methods of integration, and the study of the definite integral, with applications to problems in areas, volumes, surfaces, and lengths of arcs. Granville, Smith, Longley, *Elements of the Differential and Integral Calculus.* Staff.

***Math. 203. Integral Calculus II.**

0-0-4

Required of sophomores in Engineering. Prerequisite: Math. 202.

A continuation of Integral Calculus I: the calculation of centroids, radii of gyration and moments of inertia; problems in work and liquid pressure; double and triple integrals, infinite series, hyperbolic functions, and the elements of ordinary differential equations. Granville, Smith, Longley, *Elements of the Differential and Integral Calculus.* Staff.

* This course will be repeated the following term.

Courses for Graduates and Advanced Undergraduates

Math. 301-a. Differential Equations. 3-0-0

Required of juniors in Electrical Engineering and elective for others.
Prerequisite: Math. 203.

A short course to include the solution of standard types of equations. Numerous examples in the field of Electrical Engineering will be studied.
Phillips, *Differential Equations*. Mr. Bullock.

Math. 301-b. Differential Equations. 3-0-0

Elective. Principally for students in Chemical Engineering. Prerequisite: Math. 203.

A study of the equations that occur in Applied Chemistry. Much emphasis on graphic methods and numerical work. Hitchcock and Robinson, *Differential Equations in Applied Chemistry*. Mr. Winton.

Math. 302. Graphical and Numerical Methods. 0-3-0

Elective. Prerequisite: Math. 203.

Graphical and numerical approximate methods in differentiation, integration, and the solution of both ordinary and differential equations. Theory of least squares and empirical curve fitting. Numerous examples in the fields of physics, electricity, mechanics, and engineering will be solved.
Lipka, *Graphical and Mechanical Computation*. Mr. Cell.

Math. 303. Vector Analysis I. 0-0-3

Elective. Prerequisite: Math. 203.

A study of the different vector products. The calculus of vectors with applications to geometry and mechanics. Phillips, *Vector Analysis*.

Mr. Clarkson.

Math. 311. Advanced Calculus for Engineers, I. 3-0-0

Elective. Prerequisite: Math. 301-a or 301-b.

Functions, power series, partial differentiation, maxima and minima of functions of two variables. Woods, *Advanced Calculus*. Mr. Levine.

Math. 312. Advanced Calculus for Engineers, II. 0-3-0

A continuation of Math. 311.

The definite integral, special integrals, line integrals, special differential equations. Woods, *Advanced Calculus*. Mr. Levine.

Math. 313. Advanced Calculus for Engineers, III. 0-0-3

A continuation of Math. 312.

Partial differential equations, special topics in vector analysis, functions of a complex variable, elliptic integrals. Woods, *Advanced Calculus*.

Mr. Levine.

Math. 321. Advanced Analytical Geometry. 3-0-0

Elective. Prerequisite: Math. 203.

The elements of higher plane curves and the geometry of space. Snyder and Sisam, *Analytical Geometry*. Mr. Bullock.

Math. 322. Theory of Equations. 0-3-0

Elective. Prerequisite: Math. 203.

The usual topics in the theory of equations, the solution of higher equations, exponential equations, logarithmic equations, and determinants. Dickson, *First Course in Theory of Equations*. Mr. Mumford.

Math. 323. Series. 0-0-3

Elective. Prerequisite: Math. 203.

Fourier series, related series and functions, with applications to physics and engineering. Mr. Levine.

Math. 401. Applied Mathematics I. 3-0-0

Elective. For graduate students only. Prerequisite: Math. 313, or the consent of the instructor.

The course will be arranged to fit the engineering interests of the students enrolled.

Catenary cables, straight and curved beam problems, theory of curve fitting, probability and applications, problems in the theory of elasticity, ballistics, vibration theory and problems, electrical circuits, Heaviside operational calculus and applications to electrical engineering and to other engineering problems, calculus of finite differences and applications. Doherty and Keller, *Mathematics of Modern Engineering*. Mr. Cell.

Math. 402. Applied Mathematics II. 0-3-0

Elective. For graduate students only. Prerequisite: Math. 401.

A continuation of Math. 401. Doherty and Keller, *Mathematics of Modern Engineering*. Mr. Cell.

Math. 403. Applied Mathematics III. 0-0-3

Elective. For graduate students only. Prerequisite: Math. 402.

A continuation of Math. 402. Doherty and Keller, *Mathematics of Modern Engineering*. Mr. Cell.

MECHANICAL ENGINEERING**Courses for Undergraduates****M. E. 101, 102, 103. Engineering Drawing I. 2-2-2**

Required of freshmen in Textiles.

Drawing-board work covering lettering, projections, sections, pictorial drawings, working drawings as related to textile machinery, tracing, and blueprinting. Hoelscher and Mays, *Basic Units in Mechanical Drawing*.

Messrs. Briggs, Brown, Feltner, Moose, and Nash.

M. E. 105, 106. Engineering Drawing II. 3-3-0

Required of freshmen in Engineering, Agricultural Engineering. Teachers of Industrial Arts, and Landscape Architecture.

Drawing-board work covering lettering, projections, sections, revolution, pictorial drawings, intersection, development, working drawings, tracing, and blueprinting. French, *Engineering Drawing*.

Messrs. Briggs, Brown, Feltner, Moose, and Nash.

M. E. 107. Descriptive Geometry. 0-0-3

Required of freshmen in Engineering, Agricultural Engineering. Teachers of Industrial Arts, and Landscape Architecture.

Prerequisite: M. E. 105, 106.

Representation of geometrical magnitudes by means of points, lines, planes, and solids, and the solutions of problems. Warner, *Applied Descriptive Geometry*.

Messrs. Briggs, Brown, Feltner, Moose and Nash.

M. E. 111, 112, 113. Mechanical Drawing. 2-2-2 or 0-2-2

Six (6) credits required of sophomores in Mechanical Engineering, and four (4) credits required of juniors in Ceramic Engineering.

Prerequisite: M. E. 105-6, M. E. 107.

Drawing-board work covering machine fastenings, pipe fittings, cam design, technical sketching, applied descriptive geometry, and working drawings; tracing and blueprinting. French, *Engineering Drawing*.

Messrs. Briggs, Fornes, Parkinson, and Satterfield.

M. E. 115, 116, 117. Elementary Mechanism. 1-1-1

Required of juniors in Electrical Engineering.

Prerequisite: M. E. 105-6-7.

Instruction in elementary cams, machine fastenings, technical sketching, working drawings, simple link work, and design of simple machine parts. Slaymaker, *Elementary Mechanism*.

Messrs. Briggs and Fornes.

M. E. 121, 122, 123. Shopwork. 1-1-1

Required of sophomores in Chemical Engineering and freshmen in Textiles. First two terms required of juniors in Farm Bus. Adm.

Use of bench tools, making cabinet joints, operation and care of wood-working machinery. Correct methods of staining, varnishing, filling, and gluing various kinds of wood. The forging of iron and steel. Instruction and practice in molding and core making. Cupola practice.

Messrs. Maddison, Rowland, and Truitt.

M. E. 124. Shopwork. 2 or 2 or 2

Required of sophomores in Mechanical Engineering and in Industrial Engineering.

Deal with elementary joinery, finishing, theory of dry-kilning, wood-turning. Lectures, demonstrations, and practice in hand work and machine methods. Typical patterns and core boxes are constructed such as solid, split, and loose piece. Turner and Town, *Pattern Making*.

Mr. Rowland.

M. E. 125. Shopwork.

2 or 2 or 2

Required of sophomores in Industrial and Mechanical Engineering.

Lectures, demonstrations, and practice in molding and core making, furnace operations, melting and casting of ferrous and non-ferrous metals and their alloys. Instruction and practice in the testing of molding sands. Stimpson, Gray, and Grennan, *Foundry Work*. Mr. Maddison.

M. E. 126. Shopwork.

2 or 2 or 2

Required of sophomores in Industrial and Mechanical Engineering.

A study of the principles and practice as applied to the forging of wrought iron and steel. Lectures, demonstrations, and practice in forge welding. Tool-making and heat treatment. Bacon, Johnson, *Forging*. Mr. Truitt.

M. E. 127. Woodworking.

3-0-0

Required of juniors in Architectural Engineering.

Includes elementary joinery, cabinet joints, reading blueprints, and wood-turning. Theory of dry-kilning and wood finishing. Lectures, demonstrations, and practice in hand and machine methods. Mr. Rowland.

M. E. 128. Metal Work.

3 or 3 or 3

Required of sophomores in Civil, Highway, Sanitary, and Electrical Engineering.

A study of the principles and practices as applied to the forging of wrought iron and steel. Lectures, demonstrations, and practice in forge welding. Tool making and heat treatment. Mr. Maddison, Mr. Truitt.

M. E. 131, 132, 133. Metallurgy.

2-2-2

Required of sophomores in Mechanical Engineering.

Prerequisite: Chem. 101-3-5.

The study of metals and alloys; smelting, refining, shaping, and heat treating. Crystallography of metals, their properties and commercial applications. Stoughton and Butts, *Engineering Metallurgy*. Mr. Selkinghaus.

M. E. 135, 136, 137. Heat Engineering I.

2-2-2

Elective in Textile Manufacturing.

Prerequisite: Phys. 103 and Math. 103.

Nature and measurement of heat, work, and power. Study of fuels and combustion, steam and steam boilers, and boiler-room auxiliaries. Elementary thermodynamics of the steam cycle. Potter and Calderwood, *Elements of Steam and Gas Power Engineering*. Mr. Bridges.

M. E. 139. Heat Engineering II.

0-0-3

Required of juniors in Civil, Geological, and Highway Engineering.

Prerequisite: Phys. 111-12-13, Math. 101-2-3.

Nature and measurement of heat, work, and power. Study of fuels and combustion, steam and steam boilers, and boiler-room auxiliaries. A. M. Greene, Jr., *Elements of Power Generation*.

Messrs. Bridges and Selkinghaus.

Courses for Advanced Undergraduates

M. E. 201, 202. Heat Engineering III. 3-3-0

Required of juniors in Ceramic and seniors in Chemical Engineering.

Prerequisite: Phys. 111-12-13, Math. 203, M. E. 105-6.

Nature and measurement of heat, work, and power. Study of fuels and combustion, steam and steam boilers, and boiler-room auxiliaries. Elementary thermodynamics of the steam and gas engine cycles. Young and Young, *Elementary Engineering Thermodynamics*.

Mr. Selkinghaus, Mr. Bridges.

M. E. 207, 208, 209. Engineering Thermodynamics. 3-3-3

Required of juniors in E. E., M. E., and I. E.

Prerequisite: Phys. 111-12-13, Math. 203.

The study of heat as an engineering media, using the energy equation to solve problems dealing with gases, vapors, and mixtures. The steam table is studied in detail, with special application to the design of nozzles, steam power plants, engines and turbines. Combustion, refrigeration, compressed air, and internal combustion engine cycles are also studied. Kiefer and Stuart, *Principles of Engineering Thermodynamics*.

Messrs. Rice, Satterfield, and Vaughan.

M. E. 211, 212. Mechanical Engineering Laboratory I. 1-1-0

Required of juniors in Cer. E. and seniors in Chemical Engineering. Concurrent with M. E. 201-2.

Calibration of thermometers and gauges, use of planimeters and indicators; coal and gas analyses; tests of lubricating oils. Testing of steam engines, turbines, and internal combustion engines. Rice, *Mechanical Engineering Laboratory*.

Messrs. Bridges, Rice, and Selkinghaus.

M. E. 213, 214, 215. Mechanical Engineering Laboratory II. 1-1-1

Required of juniors in Electrical, Industrial, and Mechanical Engineering. Concurrent with M. E. 207, 208, 209, or M. E. 201, 202.

The work consists of: calibration of pressure, temperature, speed and power measuring instruments; the study of steam generating and power generating equipment; the testing of fuels, lubricants, and power machinery. Rice, *Mechanical Engineering Laboratory*.

Messrs. Bridges, Rice, and Selkinghaus.

M. E. 217, 218, 219. Kinematics. 3-3-3

Required of juniors in Mechanical Engineering.

Prerequisite: M. E. 111-12-13.

A study of the science of the motion of machine parts, or the geometry of machinery, with emphasis on belts, pulleys, cams, gears, chain drives, shafts, and links. Schwamb, Merrill, and James, *Elements of Mechanism*.

Mr. Fornes.

- M. E. 223. Introduction to Aeronautics.** 0-0-3
 Required of juniors in M. E., Aeronautical Option.
 Prerequisite: Phys. 111-12-13.
 A study of the airplane and simple aerodynamics. Carter, *Simple Aerodynamics and the Airplane*. Mr. Parkinson.
- M. E. 225, 226. Machine Shop I.** 1-1-0
 Required of juniors in Chemical Engineering.
 Prerequisite: M. E. 121-22-23.
 Instruction is given in chipping, filing, scraping, and babbitting. General machine work, including straight and taper turning, drilling, shaper work, and gear cutting. Mr. Wheeler.
- M. E. 227, 228, 229. Machine Shop II.** 1-1-1
 Required of juniors in Mechanical Engineering and Yarn Manufacturing.
 Prerequisite: M. E. 121-22-23. or M. E. 124-25-26.
 Given by lectures and demonstrations. Includes laying out work, grinding tools, chipping, drilling, tapping, babbitting bearings and scraping. Machine work, including centering, straight and taper turning, chucking, screw cutting, shaper work, planer work and index milling, and gear cutting. Turner, *Machine Tool Work*. Mr. Wheeler.
- M. E. 231, 232, 233. Machine Shop III.** 2-2-2
 Required of juniors in Industrial Engineering.
 Prerequisite: M. E. 124-25-26.
 Instruction is given through lectures, demonstrations and required exercises. The exercises will include chipping, tapping, drilling and tool grinding. Machine tool work will include straight and taper turning, screw-cutting, shaper and planer work, index milling and gear cutting. Emphasis placed upon economic production. Turner, *Machine Tool Work*. Mr. Wheeler.
- M. E. 235, 236. Metal Shop.** 3-3-0
 Required in Industrial Arts. Prerequisite: Ed. 106.
 Use of hand and machine tools in problems for Secondary Schools.
 Kaup, *Machine Shop Practice* Mr. Wheeler.
- M. E. 237, 238, 239. Furniture Designs and Rod-Making.** 3-3-3
 Required of juniors in M. E. (Furniture Option).
 Prerequisite: M. E. 105, 106, and 107; 124-25-26.
 Principles of elementary freehand design. Methods of dry-kilning, finishing, filling and staining, and rod-making. Dean, *Modern American Period Furniture*. Mr. Wheeler.

M. E. 241, 242, 243. Furniture Design and Construction. 3-3-6

Required of seniors in Mechanical Engineering (Furniture Option).

Prerequisite: M. E. 237-38-39.

Theory and practice in construction and finishing. Factory processes and layout for quantity production. Dean, *Modern American Period Furniture*.

Mr. Wheeler.

M. E. 250. General Aeronautics. 3 or 3-0

Elective except for students in Aero. Option.

Prerequisite: Math. 101-2-3.

Course in the appreciation of aeronautics in its various phases. The scope of the course embraces theory of flight, construction and operation of aircraft, aircraft engines, instruments, navigation and meteorology. Lusk,

General Aeronautics.

Mr. Parkinson.

Courses for Graduates and Advanced Undergraduates**M. E. 301, 302, 303. Power Plants. 3-3-3**

Required of seniors in Mechanical Engineering.

Prerequisite: M. E. 207-8-9 and M. E. 213-14-15.

A critical study of fuels and combustion, heat balance, steam boilers, prime movers and auxiliaries as applied to power generation. Morse, *Power Plant Engineering and Design*.

Mr. Vaughan.

M. E. 304. Heating and Air-Conditioning. 0-3-0

Required of seniors in Mechanical Engineering and Industrial Management.

Prerequisite: M. E. 207-8-9.

Principles of heating and ventilation. Hot air, steam, and hot water heating systems; air conditioning. Severns, *Heating, Ventilating, and Air Conditioning*.

Mr. Vaughan.

M. E. 305. Refrigeration. 0-0-3

Required of seniors in Mechanical Engineering.

Prerequisite: M. E. 207-8-9.

Theory of refrigeration; types of ice-making and refrigerating machinery. Special emphasis upon cooling for air conditioning. Installation, management, and cost of operation. Macintire, *Refrigeration Engineering*.

Mr. Vaughan.

M. E. 307, 308, 309. Mechanical Engineering Laboratory III. 1-1-1

Required of seniors in Mechanical Engineering.

Prerequisite: M. E. 213-14-15.

Testing of materials, efficiency, and economy runs on gasoline, oil, and steam engines, steam turbine and fans. Boiler and steam pump tests. Hydraulic testing. Rice, *Mechanical Engineering Laboratory*.

Messrs. Bridges, Rice, and Selkinghaus.

M. E. 311, 312, 313. Machine Design. 3-3-3

Required of seniors in Mechanical Engineering.

Prerequisite: M. E. 217-18-19, E. M. 213, E. M. 222.

Application of mechanics, kinematics, strength of materials, and metallurgy to the design of machinery. Determination of proper materials, shape, size, strength, motion, and relationship of various machine parts. Kimball and Barr, *Machine Design*. Mr. Fornes.

M. E. 315. Hydraulic Machinery. 0-0-3

Required of seniors in Electrical Engineering.

Prerequisite: E. M. 230.

Design and tests of hydraulic motors and pumps, including study of their theoretical and actual efficiencies. Naval Hydro-Mechanics, Laboratory Experiment. Russell, *Hydraulics*. Mr. Riddick.

M. E. 317, 318, 319. Aerodynamics. 3-3-3

Required of seniors taking Aeronautical Option in Mechanical Engineering.

Prerequisite: Math. 203 and M. E. 223.

A study of forces affecting the airplane under the various conditions of flight. Diehl, *Engineering Aerodynamics*. Mr. Parkinson.

M. E. 321, 322, 323. Aircraft Engines. 3-3-3

Required of seniors taking Aeronautical Option in Mechanical Engineering.

Prerequisite: M. E. 207-08-09.

Thermal and mechanical characteristics of high-speed internal combustion engines; operation, performance, and design. Streeter and Lichty, *Internal Combustion Engines*. Mr. Rice.

M. E. 325, 326, 327. Airplane Design. 3-3-3

Required of seniors taking Aeronautical Option in Mechanical Engineering.

Prerequisite: E. M. 213, 222, C. E. 201 and M. E. 223.

A study of the design and construction of aircraft. Niles and Newell, *Airplane Design*; Younger, *Design of Metal Airplanes*. Mr. Parkinson.

M. E. 331, 332, 333. Aeronautical Laboratory. 1-1-1

Required of seniors taking Aeronautical Option in Mechanical Engineering.

Prerequisite: M. E. 213-14-15.

Experiments with aircraft engines and auxiliaries. Wind-tunnel tests on airfoils and models. Rigging of airplanes. Rice, *Mechanical Engineering Laboratory*. Mr. Rice, Mr. Parkinson.

M. E. 335, 336, 337. Experimental Engineering. 3-3-3

Prerequisite: M. E. 213-14-15, or equivalent as approved by faculty group.

A course in advanced engineering principles applied to a specific project dealing with heat-power, hydraulics, metallography, aerodynamics, or general experimental work. A seminar period is provided and a written report required. Messrs. Parkinson, Rice, Vaughan, and Wheeler.

M. E. 341. Aircraft Instruments and Avigation.

3-0-0

Requisite: M. E. 223.

This course deals with the instruments used in aircraft engine operation, flight indication, and in avigation. The uses, principle of operation, and calibration is studied in detail. The fundamental of avigation includes problems in avigation such as course plotting, radius of action from fixed and moving bases and interception. *Lecturer's Notes.* Mr. Parkinson.

M. E. 342. Air Transportation.

0-3-0

Prerequisite: M. E. 223.

The various phases of air transportation and airline operation studied in this course. This includes a brief survey of existing conditions, factors governing development, methods of large scale aircraft operation, personnel organization and aviation law. *Lecturer's Notes.* Mr. Parkinson.

M. E. 343. Aircraft Propeller Design.

0-0-3

Prerequisite: M. E. 223.

The various theories are discussed in this design course. This embraces effects of blade shape, tip speed, and gearing on propeller performance. The various types of propellers are studied in detail. Weick, *Aircraft Propeller Design.* Mr. Parkinson.

Courses for Graduates Only***M. E. 401, 402, 403. Power Plant Design.**

3-3-3

Prerequisite: M. E. 301-2-3 and M. E. 207-8-9.

The design of a plant to fulfill conditions obtained by investigation and research; specifications for design and installation. Mr. Vaughan.

***M. E. 405, 406, 407. Design of Heating and Ventilating System.**

3-3-3

Prerequisite: M. E. 304 and M. E. 307-8-9.

The study and the design of a heating system for specific conditions; specifications for installation and performance tests of heating equipment. Mr. Rice, Mr. Vaughan.

M. E. 411, 412, 413. Advanced Aerodynamics.

3-3-3

Prerequisite: M. E. 317-18-19.

Wind-tunnel research. First term: a study of tests performed. Second term; a series of experiments. Third term: the compilation and interpretation of the results. Mr. Parkinson.

M. E. 415, 416, 417. Aerodynamic Research.

3-3-3

Prerequisite: M. E. 331-32-33.

Research and thesis in connection with M. E. 411-12-13. Mr. Parkinson.

M. E. 421, 422, 423. Mechanical Engineering Research.

3-3-3

Prerequisite: M. E. 301-2-3 and M. E. 304.

Research and thesis in connection with M. E. 401-2-3 and M. E. 405-6-7. Mr. Rice, Mr. Vaughan.

* Only one of these courses to be offered during any college year.

MILITARY SCIENCE AND TACTICS**Mil. 101. Military Science I.****2-2-2**

This, the first-year basic course, is required of all physically fit freshmen.

The National Defense Act and the R. O. T. C., Military Courtesy and Discipline, Military Hygiene and First Aid, Leadership, Rifle Marksmanship, Map Reading, Military Organization, Current International Situation, Military History and Policy, and Obligations of Citizenship.

Mil. 102. Military Science II.**2-2-2**

This, the second-year basic course, is required of all physically fit sophomores who have completed Military Science 101.

Leadership, Musketry, Automatic Rifle, Scouting and Patrolling, Combat Principles of the Rifle Squad and Section; Interior Guard Duty and Military History.

Mil. 103. Military Science III.**3-3-3**

This, the first-year advanced course, is elective for selected juniors. Prerequisite: Mil. 102.

Aerial Photograph Reading, Leadership, Machine Gun, 37 MM. Gun, Three-inch Trench Mortar, Combat Principles of the Rifle Section and Rifle Platoon, Pistol, Supply and Mess Management, Care of Animals and Stable Management, Field Fortifications, Care and Operation of Motor Vehicles, and Defense Against Chemical Warfare.

Mil. 104. Military Science IV.**3-3-3**

This, the second year advanced course, is required of all seniors who have completed the first-year advanced course. Prerequisite: Mil. 103.

Military Law and Officers Reserve Corps Regulations, Military History and Policy, Anti-aircraft Defense, Leadership, Combat Principles of the Rifle Company, Machine Gun Company, and Howitzer Platoon, Tanks and Mechanization, Combat Intelligence, and Signal Communications.

Full credit will be given for work at other institutions maintaining a *Senior* unit of the Reserve Officers Training Corps as shown by the students' record, Form 131 A. G. O., kept by the Professor of Military Science and Tactics.

MODERN LANGUAGES**FRENCH****Courses for Undergraduates****M. L. 101. Elementary French.****3-3-3**

Elective. Reading and translations with elements of grammar; pronunciation, diction, and oral practice.

Mr. Ballenger.

Courses for Advanced Undergraduates**M. L. 201. French Prose. 3-3-0**

Elective. Prerequisite: M. L. 101 or equivalent.*

General survey of French literature and culture, with emphasis on Hugo, Dumas, Daudet, and others. Translations, parallel readings and reports.
Mr. Ballenger.

M. L. 202. Introductory Scientific French. 0-0-3

Elective. Prerequisite: M. L. 201.

Reading and translation with the study of scientific construction; initial work in the acquisition of a scientific vocabulary stressed.

Mr. Ballenger, Mr. Garodnick.

Courses for Graduates and Advanced Undergraduates****M. L. 301. Scientific French. 3-3-3**

Elective. Prerequisite: M. L. 201.

Extensive reading in scientific literature; scientific terminology, and acquisition of a scientific vocabulary. Parallel readings, reports, and conferences.
Mr. Hinkle, Mr. Garodnick.

M. L. 313. French Prose Masterpieces. 3-3-3

Elective. Prerequisite: M. L. 201.

Translation of French for purposes of investigation. Parallel readings, reports and conferences. Alternates with M. L. 301.
Mr. Hinkle.

GERMAN**Courses for Undergraduates****M. L. 102. Elementary German. 3-3-3**

Elective.

Reading and translations with elements of grammar; pronunciation, diction, and oral practice.
Mr. Hinkle.

Courses for Advanced Undergraduates**M. L. 205. German Prose. 3-3-0**

Elective. Prerequisite: M. L. 102, or equivalent.*

General survey of German literature and culture, with emphasis on translations, parallel readings, and reports.
Mr. Hinkle.

M. L. 207. Introductory Scientific German. 0-0-3

Elective. Prerequisite: M. L. 205.

Translations with study of scientific construction, and the acquisition of a scientific vocabulary.
Mr. Hinkle, Mr. Garodnick.

* Two years of High School work will be considered the equivalent of M. L. 101, 102 or 103.

** Students taking this course are given the opportunity of working a project in connection with the Translation Service of the department. When this project is satisfactorily completed, it is bound and placed in the College Library. This procedure is recommended as a method of preparation for the acquisition of a reading knowledge of the respective language.

Courses for Graduates and Advanced Undergraduates

****M. L. 304. Advanced Scientific German.** 3-3-3

Elective. Prerequisite: M. L. 207.

This is an extensive reading course in advanced scientific literature. It is designed and conducted primarily to meet the needs of students who are majoring in Science.

Mr. Hinkle, Mr. Garodnick.

M. L. 314. German Prose Masterpieces. 3-3-3

Elective. Prerequisite: M. L. 205.

Translation of German for purposes of investigation. Parallel readings, reports, and conferences. Alternates with M. L. 304. Mr. Hinkle.

SPANISH

Courses for Undergraduates

M. L. 103. Elementary Spanish. 3-3-3

Elective. Reading and translations with elements of grammar; pronunciation, diction, and oral practice.

Mr. Ballenger.

Courses for Advanced Undergraduates

M. L. 209. Spanish Prose. 3-3-3

Elective. Prerequisite: M. L. 103, or equivalent.*

General survey of Spanish literature and culture, with emphasis on modern Spanish classics. Translations, parallel readings, and reports.

Mr. Ballenger.

****M. L. 206. Industrial and Scientific Spanish.** 3-3-3

Elective. Prerequisite: M. L. 209.

This is an extensive reading course in industrial and scientific literature. A study of technical expressions is made with a view to the acquisition of a practical vocabulary. Conferences, consultations, and reports.

Mr. Ballenger, Mr. Garodnick.

Courses for Graduates and Advanced Undergraduates

M. L. 315. Spanish Prose Masterpieces. 3-3-3

Elective. Prerequisite: M. L. 209.

Translation for developing facility in Spanish. Parallel readings, reports, and conferences. Alternates with M. L. 310.

Mr. Hinkle.

* Two years of High School Work will be considered the equivalent of M.L. 101, 102 or 103.
** Students taking this course are given the opportunity of working a project in connection with the translation Service of the Department. When this project is satisfactorily completed, it is bound and placed in the College Library. This procedure is recommended as a method of preparation for the acquisition of a reading knowledge of the respective language.

General Courses

M. L. 310. French, German, and Spanish Civilization. 3-3-3

Elective. Prerequisite: Two years French, German, or Spanish.

Development of French, German, and Spanish civilization, culture, manners and customs. Parallel readings, reports, and conferences. Mr. Hinkle.

M. L. 316. The Development of Language. 3-3-3

Prerequisite: M. L. 201, 205, 209, or equivalent.

The various phases of linguistic growth, with the object of providing a basis for intelligent language study. Problems as to the origin of language, linguistic change, grammatical categories, dialects, standard language, word order, inflection, isolation, agglutination, etymology, and other linguistic processes. Mr. Hinkle.

M. L. 317. Masterpieces of Foreign Literature. 3-3-3

Prerequisite: M. L. 316, or equivalent.

A study of outstanding literary productions in each of the various types of literature with lectures on the cultural background out of which they have developed. Especial attention given to the literary contributions of France, Germany, Italy, and Spain. Mr. Hinkle.

PHYSICAL EDUCATION

Courses for Undergraduates

P. E. 101. Fundamental Activities and Hygiene. 1-1-1

Required of all freshmen except those excused upon the recommendation of the college physician.

Individual health and physical efficiency of each student, based on standard athletic, gymnastic, and efficiency tests. Lectures on personal hygiene required in one term only. Mr. Miller and Staff.

P. E. 102. Sport Activities. 1-1-1

Required of all sophomores except those excused upon the recommendation of the college physician. Prerequisite: P. E. 101.

Election permitted in popular sports for healthful exercise and a fair degree of skill in them. Mr. Miller and Staff.

P. E. 103. Corrective Activities. 1-1-1

Required of all freshmen excused from P. E. 101.

Special exercises for those students who cannot take work in regular course because of a physical handicap. Mr. Miller and Staff.

P. E. 104. Corrective Activities. 1-1-1

Required of all sophomores excused from P. E. 102.

Special exercises given those students who cannot take the regular course because of physical handicap. Mr. Miller and Staff.

P. E. 122. Social Recreation.

0-0-3

This course is especially prepared to meet the demands made of Teachers of Agriculture for social recreational activities. The content of the course will deal with the organization, the supervision and practice work in leadership in athletic and social activities for parties, picnics, camps, banquets, and similar occasions.

Mr. Miller.

PHYSICS**Courses for Undergraduates****Phys. 100. Physics Survey.**

0-3-0

An introductory survey of physical phenomena, with the scientific method developed and conclusion drawn therefrom; designed for the enrichment of the student's thinking.

Mr. Heck.

Phys. 101. General Physics.

4-4-4

A general survey of the phenomena, laws, and devices of modern physical science. Millicon, Gale and Edwards, *First Course in Physics for Colleges*.

Mr. Heck, Mr. Bartlett.

Phys. 102, 103, 104. Physics for Textile Students.

4-4-4

Required of freshmen in the Textile School. Prerequisite: Math. 100.

Industrial Physics, with emphasis on practical applications to textile industry. Foley, *College Physics*, 2nd edition.

Mr. Derieux, Mr. Lancaster.

Phys. 105. Physics for Agricultural Students.

5 or 5 or 5

Required of sophomores in Agriculture.

Elements of machines, physics of heat and weather, and applications of light and electricity on the farm. Henderson, *The New Physics of Everyday Life*.

Mr. Heck, Mr. Bartlett.

Phys. 107. Descriptive Astronomy.

0-3-0 or 0-0-3

Elective.

The sun and planets, the stars and modern research in astronomy; observations with telescope. Baker, *Introduction to Astronomy*.

Mr. Heck.

Phys. 111, 112, 113. Physics for Engineers.

4-4-4

Required of sophomores in Engineering. Prerequisite: Math. 102.

General Physics, with emphasis on problems and engineering applications. Hausmann-Slack, *Physics*.

Messrs. Heck, Derieux, Dixon, Meares, Lancaster, and Bartlett.

Courses for Advanced Undergraduates**Phys. 201. Advanced Physics.**

4-4-4

Elective. Required of sophomores specializing in Physics. Prerequisite: Phys. 101, Math. 103.

Designed for teaching Physics in secondary schools or for those desiring specialization in Physics. Duncan and Starling, *Textbook of Physics*.

Mr. Heck.

Phys. 202. Industrial Optics.

3-0-0

Elective, especially for Engineering and Industrial Management students.
Prerequisite: Phys. 101, or equivalent

Photometric units, photometry and illumination, light sources, radiometry and spectroradiometry, color, light-sensitive cells, optical glass types and manufacture, design, manufacture, and testing of optical parts, lens errors and corrections, design and manufacture of optical instruments. Hardy and Perrin, *Principles of Optics*. Mr. Derieux.

Phys. 203. Photography.

0-3-0

Elective. Prerequisite: Phys. 101, or equivalent.

A study of the optical requisites of the camera; proper exposure, development and printing; lantern slides, micro-photography, projection prints and color photography. Neblette, *Photography, Principles and Practice*.

Mr. Meares.

Phys. 204. Electron Tubes and Their Application to Industry.

0-0-3

Elective. Prerequisite: Phys. 101 or 111-12-13.

Thermionic emission, various thermionic emitters, secondary emission, space charge, discharge in gases, photoelectricity, photoconductivity, and the photovoltaic effect. Laboratory substituted for lectures as needed. Koller, *Physics of Electron Tubes*. Mr. Dixon.

Phys. 205. Light in Industry.

0-0-3

Elective especially for Textile and Industrial Management students. Prerequisite: Phys. 101, or equivalent.

Fundamentals of light, illumination and color, with principles applied to selection, mixing, harmony, matching, lighting, photography, and pigments.

Mr. Lancaster.

Phys. 206. Elementary Modern Physics.

3-0-0 or 0-0-3

Required of juniors in Electrical Engineering and of seniors in Ch. E.
Prerequisite: General Physics.

Evolution of the electron theory, constitution of matter, conduction in gases, conduction in non-metallic liquids, conduction in solids, radiation, photoelectric emission, thermionic emission, electronic rectifiers, applications of electronic devices. Hull, *Modern Physics*. Mr. Derieux, Mr. Dixon.

Phys. 209. Meterology.

0-3-0

Required of juniors in Forestry.

Causes of weather change, methods of forecasting, and peculiarities of the weather of North Carolina. Blair, *Weather Elements*. Mr. Heck.

Courses for Graduates and Advanced Undergraduates**Phys. 301. Mechanics.**

0-3-3 or 0-4-4

Elective. Prerequisite: Phys. 201, Math. 203.

The physics principles of mechanics. Edser, *Physics for Students*.

Mr. Derieux.

Phys. 302. Electricity and Magnetism. 3-3-0 or 4-4-0

Elective. Prerequisite: Phys. 201 or 111-12-13.

Fundamental principles of subject in a more specialized but intermediate manner. Laboratory, if taken, increases the course to 4 credits. Gilbert, *Electricity and Magnetism*. Mr. Dixon.

Phys. 303. Heat. 3-0-0

Elective. Prerequisite: Phys. 111-12-13 and Integral Calculus.

Methods of temperature measurement, specific heats, thermal expansion in solids, in liquids and in gases, conduction, radiation, kinetic theory of gases, change of state, continuity of state, thermodynamics, low temperatures, high temperatures. Cork, *Heat*. Mr. Derieux, Mr. Dixon.

Phys. 304. Sound. 0-0-3 or 0-0-4

Elective. Prerequisite: 12 term credits in Physics.

Production, propagation, and reception of sound, with analysis of physical basis of music. Watson, *Sound*. Mr. Heck.

Phys. 305. Light. 0-3-3 or 0-4-4

Elective. Prerequisite: Phys. 101 or 111-12-13.

Introduction to principles of geometrical and physical optics. Edser, *Light for Students*. Mr. Derieux.

Phys. 307. History of Physics. 0-0-3

Elective. Prerequisite: Phys. 101.

Development of Physics from its beginnings to the present time. Crew, *Rise of Modern Physics*. Mr. Heck.

Phys. 308. Modern Physics. 3-3-3

Elective. Prerequisite: Phys. 111-12-13 and Integral Calculus.

Alternating currents, electromagnetic radiation, moving charge, the electron, kinetic theory of gases, thermionics, photoelectric effect, X-rays, spectra, atomic structure, ionizing potential, radio and television, radioactivity, isotopes, geophysics, astrophysics, relativity, specific heats, high frequency sound, recent ideas. Physics Staff, Univ. of Pittsburgh, *Atomic Physics*. Mr. Derieux.

Phys. 309. Research. 3-3-3

Elective. Prerequisite: Phys. 101 or 102-3-4 or 111-12-13.

Undergraduate research given according to student's ability.

Mr. Heck.

Phys. 310. Physics Colloquium.

Current research by department and advanced students; meets weekly at night throughout the year.

Mr. Heck.

Courses for Graduates Only

***Phys. 401. Theoretical Mechanics.** 3-3-3

Prerequisite: Phys. 201, Math. 203.

Gyroscopic motion, spiral orbits, compound pendulum, bifilar suspensions, coupled systems, damped and forced oscillations, elasticity, surface tension, osmosis, motion of fluids, viscosity, and wave motion. Preston, *Mechanics of Particles and Rigid Bodies*.
Mr. Derieux.

***Phys. 402. Geometrical Optics.** 3-0-0

Prerequisite: Phys. 201, Math. 203.

Photometry, intrinsic energy, luminosity, curved mirrors, refraction through a prism, refraction at curved surface, thin lens, lenses in system of thick lenses, the eye and spectacles, dispersion, aberrations, resolving power, achromatic lenses, and optical instruments. Houston, *A Treatise on Light*.

Mr. Derieux.

***Phys. 403. Physical Optics.** 0-3-3

Prerequisite: Phys. 201, Math. 203.

Velocity of light, composition of wave, velocity of wave transmission, wave theory of light, spectra, Doppler effect, absorption, anomalous dispersion, interference, interferometers, color photography, diffraction, and gratings, polarization, and saccharimetry. Houston, *A Treatise on Light*.

Mr. Derieux.

***Phys. 404. Kinetic Theory of Gases.** 3-0-0

Prerequisite: Phys. 201, Math. 203.

Laws of Maxwell, Dalton, Avagadro, first and second laws of thermodynamics, mean free path, viscosity, diffusion, Van de Waals' equation, critical point, triple point, solution, vapor and osmotic pressure, boiling point, freezing point, heat of solution, dissociation. Kleeman, *Kinetic Theory of Liquid and Gases*.

Mr. Derieux.

***Phys. 407. Advanced Theory of Electricity and Magnetism.** 3-3-3

Prerequisite: Phys. 201, Math. 203.

Theorem of Gauss, energy in media, boundary conditions, condensers, electrometers, dielectric constants, migration of ions, thermodynamics of reversible cells, thermo-electricity, galvanometers, magnetic circuits, growth and decay of currents, oscillatory discharge, and alternating currents. Starling, *Advanced Theory of Electricity and Magnetism*.

Mr. Dixon.

Phys. 409. Discharge of Electricity in Gases. 0-3-0

Prerequisite: Phys. 201, Math. 203.

Production of ions in gases, motion of ions, velocity in an electric field, diffusion, recombination, determination of atomic charge, ionization by collision, discharge tubes, cathode rays, positive rays, and X-rays. Crowther, *Ions, Electrons, and Ionizing Radiations*.

Mr. Dixon.

* Only two of the following alternate gamuts may be given each year; either 401 or 402 and 403, or 404, 405, 406; and either 407 or 408 and 409.

Phys. 410. Experimental Optics.

0-2-2

Laboratory work with the photometer, spectrometer, gratings, Fresnel byprism and mirrors, polarimeter, saccharimeter, and interferometer. Mann, *Manual of Optics*. Mr. Derieux.

Phys. 411. Research.

3-3-3

Open to all graduates. Every graduate student sufficiently prepared is expected to undertake a research in some particular field of Physics. At least six hours a week must be devoted to such a research.

Messrs. Heck, Derieux, and Dixon.

Phys. 412. Atomic Theory.

3-0-0

Elective. Prerequisite: Phys. 302.

Bohr's model, spectral formula, elliptical orbits, fine structure of spectral lines, Stark effect, Zeeman effect, Roentgen rays, Moseley's law, periodic system, isotopes, radioactivity, atomic nuclei, ionization, spectra and atomic structure, fluorescence, atomic magnetism. White, *Atomic Spectra*.

Mr. Dixon.

POULTRY SCIENCE

Courses for Undergraduates

Poul. 101. General Poultry.

3-0-0

Required of sophomores in Agriculture.

Fundamental principles of poultry production.

Mr. Williams, Mr. Dearstyne.

Poul. 103. Incubation and Brooding.

0-0-3

Required of juniors in Poultry Production, elective for others.

Prerequisite: Phys. 105, Poul. 101.

Principles of incubator and brooding operation, feeding, housing, and rearing of baby chicks.

Mr. Williams.

Courses for Advanced Undergraduates

Poul. 201. Selection and Mating of Poultry.

0-0-3

Required of seniors in Poultry Production. Elective for juniors in Agriculture. Prerequisite: Poul. 101, Genetics, Zool. 304.

Methods of recognition and selection for purposes of mating from both standard and utility standpoints. Study of progeny performance.

Mr. Dearstyne.

Poul. 202. Poultry Production.

0-3-0

Elective. Prerequisite: Poul. 101.

Developed especially for vocational teachers of agriculture. Poultry disease problems; nutritional problems; judging methods.

Mr. Dearstyne, Mr. Williams.

Poul. 208. Preparation and Grading of Poultry Products. 0-3-0

Required of juniors in Poultry, elective for others. Prerequisite: Poul. 101.

Commercial fattening, grading and marketing eggs. Refrigerating and storage, markets. Mr. Williams.

Courses for Graduates and Advanced Undergraduates**Poul. 302. Poultry Judging.** 3-0-0

Required of juniors in Poultry Production, elective for others. Prerequisite: Poul. 101.

Class and practice work in standard and utility judging of fowl. Selection and preparation of birds for showing. Mr. Williams.

Poul. 303. Poultry Nutrition. 0-0-4

Required of juniors in Poultry Production, elective for juniors in Agriculture. Prerequisite: Chem. 101, Zool. 101 and 102, Poul. 101.

Feeds and feeding; physiology of digestion, absorption and elimination; mineral and vitamin requirements. Mr. Dearstyne, Mr. Cook.

Poul. 304. Poultry Anatomy. 3-3-0

Required of juniors in Poultry Production, and elective especially for juniors in Agriculture. Prerequisite: Poul. 101, Zool. 102.

Study of normal structure of the fowl, including osteology, arthrology, myology, splanchnology, angiology, neurology, and æsthesiology.

Mr. Cook.

Poul. 305. Poultry Diseases. 4-4-0

Required of juniors in Poultry Science, elective for others. Prerequisite: Poul. 101, Zool. 102.

Sanitation, parasite infestations and control, contagious and non-contagious diseases of the fowl. Mr. Gauger.

Poul. 306. Commercial Poultry Plant Management. 0-0-3

Required of seniors in Poultry Science, elective for others. Prerequisite: Poul. 101, 208.

Study of development and maintenance of a commercial poultry plant, custom hatching, and commercial incubation, cost of production.

Mr. Williams.

Poul. 307. Poultry Problems. 3 or 3 or 3

Prerequisite: Poul. 101, 201, 208.

Study of new developments in poultry research, discussion of practical problems. Staff.

Poul. 308. Sero-Diagnosis in Poultry Diseases. 0-0-3

Required of seniors in Poultry Science. Prerequisite: Poul. 101, 304.

Antigen and vaccine preparation. Application of the agglutination test for pullorum disease carriers. Mr. Greaves.

- Poul. 310. Senior Seminar.** 0-0-3
 Required of seniors in Poultry. Mr. Dearstyne.

Courses for Graduates Only

- Poul. 403. Poultry Physiology.** 3-0-0
 Prerequisite: Poul. 101, 301, 304, 305; Zool. 102.
 Circulation, digestion, assimilation of the fowl; causes of mortality.
 Mr. Cook.
- Poul. 406. Production Studies and Experiments.** 3 or 3 or 3
 Prerequisite: Poul. 101, 102, 303, 305.
 Problems in Poultry nutrition, breeding, and commercial poultry production and marketing.
 Mr. Dearstyne.
- Poul. 407. Poultry Research.** 3 or 3 or 3
 Prerequisite: Eighteen term credits in Poultry.
 Problems in poultry nutrition, diseases, marketing, and breeding may be undertaken. Such problems shall be conducted on a definitely outlined basis acceptable to the department.
 Poultry Staff.
- Poul. 408. Seminar.** 3 or 3 or 3
 Prerequisite: Eighteen credit hours in Poultry. Mr. Dearstyne.

PSYCHOLOGY

- Psychol. 200. Introduction to Psychology.** 3 or 3 or 3
 A study of the general characteristics and development of human behavior, emphasizing the problems of motivation, emotion, learning, and thinking.
 Staff.
- Psychol. 200-A. Introduction to Psychology Laboratory.** 1 or 1 or 1
 Mr. McGehee.
- Psychol. 201. Individual Psychology.** 0-3-0
 Prerequisite: Psychology 200.
 A study of the sensory, motor, and neural organization of human behavior, with special emphasis on perception, intelligence, and personality.
 Mr. McGehee.
- Psychology 202. Applied Psychology.** 0-3-0 or 0-0-3
 Prerequisite: Psychology 200.
 The practical applications of psychological principles in special fields. Attention will be given to the analysis of problems arising in business, professional, and everyday life. Special reference to the psychological aspects of advertising, salesmanship and personnel selection.
 Mr. McGehee.
- Psychol. 203. Educational Psychology.** 3-3-0
 (For description of the course see Ed. 203.) Mr. Garrison.

Psychol. 238. Industrial Psychology. 0-0-3

The application of psychological principles to the problems of modern industry. The factors involved in the employment of men, as well as specific matters such as industrial learning, methods of work, monotony, fatigue, illumination, accidents, and the morale of workers will be considered.

Mr. Garrison.

Psychol. 305. Social Psychology. 0-3-0

Prerequisite: Psychol. 200 and 3 additional term credits in Sociology or Psychology.

Social applications of Psychology; social stimulation, response, and attitudes.

Mr. Garrison.

Psychol. 368. Measurements in Psychology. 0-0-3

Prerequisite: Six credits in Psychology, supplemented by credits in related fields.

An introduction to the theory and practice of mental and aptitude testing. A study will be made of the various types of mental and performance tests now in use. A critical analysis is made of the methods of devising such tests and the application of the results to the various vocational activities.

Mr. McGehee.

Psychol. s371. Psychology of Exceptional Children. 3 credits**Psychol. 376. Psychology of Adolescence.** 3-0-0

(For description of course see Ed. 376.)

Psychol. Ex. 377. Psychology of Secondary Education. 3 credits**Psychol. 390. Problems in Social and Industrial Psychology.** 3-3-0 or 0-3-3

Prerequisite: Psychol. 305 or 9 credits in Psychology.

Designed for students interested in a study of psychological aspects of social or industrial situations. Collateral reading and individual reports will characterize the course.

Staff.

Psychol. 403. Problems in Educational Psychology. 3-3-0

(For description of the course see Ed. 403.)

Mr. Garrison.

RELIGION

Courses for Undergraduates

Rel. 101. Introduction to Religion. 3-0-0

Typical forms and aspects of religion, religious phenomena, and basic sociological, psychological, and philosophical groundings of religion.

Mr. Hicks.

Rel. 102. The Life of Jesus. 3-0-0

The life of Jesus; Synoptic Gospel records with review of the social, economic, and political background of age that produced Jesus.

Mr. Hicks.

Rel. 103. Social Ethics.

0-0-3

Historical and psychological study of moral nature and moral progress; origin and development of the social conscience; and changing ethics in certain aspects of social life.

Mr. Hicks.

Rel. 104. Social Teachings of Jesus.

0-3-0

Social principles and ideals of Jesus in the Gospels: The Sermon on the Mount with teachings about God, prayer, wealth, peace, and war.

Mr. Hicks.

Courses for Advanced Undergraduates**Rel. 201. Comparative Religion.**

0-3-0

History, general characteristics, and social significance of the great ethnic religions of the world, characteristics of the living religions.

Mr. Hicks.

Courses for Graduates and Advanced Undergraduates**Rel. 301. Problems in Religion.**

0-0-3

Prerequisite: Rel. 101 and 3 additional term credits in Religion.

Pertinent problems of religion related to scientific and social developments: nature of religion, prayer, evil, immortality, etc. Individual investigation.

Mr. Hicks.

SOCIOLOGY**Courses for Undergraduates****Soc. 101. Human Relations.**

2-2-2

Required of all students in the Schools of Agriculture and Textiles who do not take Military Science.

Fundamental human institutions, home, school, church, government, and industry; social structure and social problems of our time.

Mr. Winston and Staff.

Soc. 102. Introductory Sociology.

3-0-0 or 0-3-0 or 0-0-3

Required of students in Forestry; elective for others.

Basic principles of social life and social organization, major social institutions, and problems arising from industrial organization.

Mr. Hicks and Staff.

Soc. 103. General Sociology.

3-3-0

Basic principles of sociology, general social organization, and human behavior.

Mr. Winston.

Courses for Graduates and Advanced Undergraduates**Soc. Ex. 300. Criminology.**

0-0-3

Prerequisite: Soc. 102 or 103.

Causes and conditions leading to crime, methods of handling criminals, and various factors in producing criminal behavior.

Mr. Winston.

- Soc. 301. Social Pathology.** 0-0-3
Prerequisite: Soc. 102 or 103.
Outstanding pathological problems reacting from social life, social and individual adjustments. Mr. Winston.
- Soc. Ex. 302. Sociology of City Life.** 0-3-0
Elective. Prerequisite: Soc. 102 or 103.
Problems arising from growth of modern town and city life; city planning in regard to social and industrial progress. Mr. Winston.
- Soc. 306. The Family Organization.** 3-0-0
Prerequisite: Soc. 102 or 103.
Family relationships, development of personality, effects of present-day social changes, various efforts to stabilize the family. Mr. Winston.
- Soc. 307. Race Relations.** 3-0-0
Elective. Prerequisite: Soc. 102 or 103.
Race problems in America and other countries; social, economic, educational status of racial groups; international relationships. Mr. Winston.
- Soc. Ex. 308. Social Anthropology.** 0-0-3
Prerequisite: Soc. 102 or 103.
Analysis of present-day culture and its effect on behavior. Mr. Winston.
- Soc. 310. Industrial Sociology.** 0-0-3
Prerequisite: Soc. 102 or 103.
Influence of industrial life, occupations as social and industrial factors, problems arising from our industrial era. Mr. Winston.
- Soc. 311. Population Problems.** 0-3-0
Prerequisite: Soc. 102 or 103.
Analyses of outstanding problems connected with the growth and decline of populations in the United States; factors connected with birth and death rates, marriage rates; discussion of the changing quality of population groups. Mr. Winston.
- Soc. Ex. 312. General Anthropology.** 0-3-0
Prerequisite: Soc. 102 or 103.
Physical differences in racial groups; evolution of society. Mr. Winston.
- Soc. 315. Research in Applied Sociology.** 2-2-2
Prerequisite: Nine hours of Sociology, and permission of the instructor.
Research problems in applied fields of sociology, such as problems of the family, population problems, social work problems, rural-urban relationships, student success, American leadership. Mr. Winston.

SOILS—AGRONOMY**Courses for Undergraduates**

Soils. 115. Soils. 4 or 4 or 4

Prerequisite: Geol. 120 and Chem. 101, 103, 105. Required of sophomores in Agriculture and juniors in Forestry.

A study of the properties of soils and their relation to soil management.
Mr. Clevenger, Mr. Lutz.

Courses for Advanced Undergraduates

Soils. Ex. 215. Soils of North Carolina. 3

The origin, characteristics, distribution, native vegetation, agricultural adaptation, and utilization of North Carolina soil types. Mr. Lutz.

Soils 265. Soil Fertility. 3-0-0

Prerequisite: Soils 115. For juniors and seniors in Agriculture.

A course dealing with the chemical and biological properties of soils as related to soil fertility. Mr. Lutz.

Soils 270. Soil Survey. 0-0-3

For juniors and seniors in Agriculture. Prerequisite: Soils 115 or equivalent.

The making of detailed soil maps and the writing of soil survey reports.
Mr. Clevenger.

Courses for Graduates and Advanced Undergraduates

Soils 310. Fertilizers. 0-3-0

For juniors and seniors in Agriculture. Prerequisite: Soils 115 for Agricultural students. For non-Agricultural students, prerequisite: Chem. 101-3-5.

A study of the sources, manufacture, characteristics, and utilization of fertilizers; calculation of formulas. Mr. Clevenger.

Soils 315. The Soils of North Carolina. 0-3-0

For juniors and seniors in Agriculture and Forestry. Prerequisite: Soils 115.

The origin, characteristics, plant adaptation, and fertilizer needs of North Carolina soil types. Field trips. Mr. Lutz.

Soils 317. Soil Conservation and Land Use. 0-0-3

For juniors and seniors in Agriculture and Forestry. Prerequisite: Soils 115.

A course dealing with the factors affecting erosion, the methods of erosion control, and land use. Mr. Lutz.

Soils 319. Fertilizer Experimentation. 0-0-3

Prerequisite: Soils 310.

A study of methods of determining the fertilizer needs of different crops on different soil types. Mr. Clevenger.

Soils 320. Pedology.

3-0-0

For juniors and seniors in Agriculture and Forestry. Prerequisite: Soils 115 and 265.

The genesis, morphology, and classification of the great soil groups of the world. Mr. Clevenger.

Soils 321. Soil Technology.

3-3-3

Prerequisite: Soils 265.

A laboratory, field, and greenhouse course in the physical, chemical, and biochemical properties of soils. Mr. Lutz.

Soils 322. Advanced Soils.

3-3-3

Prerequisite: Soils 265.

A course in advanced soil problems for seniors and graduate students.

Mr. Clevenger, Mr. Lutz.

Soils 350. Senior Seminar.

1-1-1

Elective for seniors in Agriculture. Prerequisite: Senior standing and fifteen credits in Soils.

Reports on problems and scientific articles of interest to soil scientists.

Mr. Clevenger, Mr. Williams, Mr. Lutz.

Courses for Graduates Only**Soils 410. Seminar.**

1-1-1

Prerequisite: Eighteen credits in Soils.

Reports and discussions of research problems in soil science.

Mr. Williams, Mr. Clevenger, Mr. Lutz.

Soils 430. Soil Research.

3-3-3

Prerequisite: Eighteen hours in Soils.

Research in specialized fields of soil science. Mr. Clevenger, Mr. Lutz.

TEXTILES**Courses for Undergraduates****Tex. 101. Textile Principles Laboratory.**

1-1-1

Required of freshmen in all Textile curricula.

Operation of plain and automatic looms and carding and spinning machines.

Mr. Peeler, Mr. Culberson.

Tex. 102. Yarn Manufacture I.

3-0-0 or 0-0-3

and

Tex. 103. Yarn Manufacture Laboratory I.

1-0-1 or 0-1-1

Required of sophomores in all Textile curricula.

Mixing of cotton, description and setting of openers, pickers, and cards. Production, speed and draft calculations. Operation and fixing of machines.

Grinding and setting cards.

Mr. Hilton, Mr. Culberson.

Tex. 104. Knitting I. 2-0-0 or 0-0-2
and

Tex. 105. Knitting Laboratory I. 1-1-1

Required of sophomores in all Textile curricula.

Selection and preparation of knitting yarns, knitting mechanisms, plain and rib knitting machines, circular ribbers, and circular automatic machines. Operation of machines, practical experiments, hosiery analysis, topping, transferring, and looping.
Mr. Lewis.

Tex. 106. Fabric Structure and Analysis. 0-2-2 or 4-0-0

Required of sophomores in all Textile curricula.

Systems of numbering woolen, worsted, silk, linen, rayon, and cotton yarn. Plain, twill, and sateen weaves. Ornamentation of plain weaves; wave designs; pointed twills; diamond effects; plain and fancy basket weaves; warp and filling rib weaves.

Analyzing plain, twill, sateen, and other fabrics made from simple weaves, ascertaining the number of ends and picks per inch in sample. Fabric analysis calculations.
Mr. Lewis, Mr. Peeler.

Tex. 107. Power Weaving. 0-2-0
and

Tex. 108. Power Weaving Laboratory. 1-1-0 or 0-1-1

Required of sophomores in all Textile curricula.

Construction of auxiliary motions on plain looms. Cams and their construction. Drop-box loom construction. Methods of pattern chain building. Construction and value of pattern multipliers. Timing of drop-box motion, and other motions.

Operation and fixing of plain, automatic and drop-box looms. Pattern chain building for drop-box looms.
Mr. Nelson, Mr. Peeler.

Tex. 109. Fabric Testing. 0-0-1

Required of seniors in Textile Manufacturing. Textile Chemistry and Dyeing, and Weaving and Designing.

Testing fabrics for strength. Effect of heat upon fabrics. Effect of regain upon tensile strength. Elasticity of fabrics. Micrometer and calculated tests for fabric thickness.
Mr. Shinn.

Tex. 110. Principles of Textile Manufacturing I. 3-0-0

A study of the processes and machines used in textile manufacture, planned as an overview course for those preparing to be teachers of industrial arts in junior and senior high schools or in vocational schools.

Mr. Nelson, Mr. Hilton.

Tex. 111. Principles of Textile Manufacturing II. 0-0-3

Prerequisite: Principles of Textile Manufacturing I, Tex. 110.

A study of the operation and care of textile machines, planned for those who are preparing to be teachers in vocational schools.

Mr. Nelson, Mr. Hilton.

- Tex. 112. Dyeing I.** 3-0-0 or 0-0-3
and
- Tex. 113. Dyeing Laboratory I.** 1-1-1
Required of juniors in Textile Manufacturing.
Physical and chemical properties of textile fibres. Chemicals used in preparing fibres for dyeing. Methods of applying substantive, sulphur, basic, developed, acid, acid chrome, mordant and vat dyes. Effect of changes in temperature and volume of the dye bath. Theory of dyeing mixed fabrics. Theory of mercerizing. Tests for the chemical constituents of the fibres. Dyeing experiments using all the different classes of dyes on the various fibres. Tests showing effect of varying such factors as bath, temperature and time. Test for fastness to light, washing, cross-dyeing, and so forth. Mercerizing experiment. Mr. Grimshaw, Mr. Hayes.
- Tex. 114. Textile Microscopy.** 1-1-0
Required of seniors in Textile Chemistry and Dyeing. Elective for others. Instruction in the use of the microscope. Examination of fibres. Preparation of permanent slides. Mr. Grimshaw, Mr. Hayes.
- Tex. 115. Textile Principles.** 3-0-0 or 0-0-3
Required of freshmen in all Textile curricula.
Principles of manufacture involved in the textile industry. Elementary calculations for yarns and fabrics; harness and reed calculations; loom production calculations. Textile Staff.

Courses for Advanced Undergraduates

- Tex. 201. Yarn Manufacture II.** 0-3-0
and
- Tex. 202. Yarn Manufacture Laboratory II.** 1-1-1
Required of juniors in Textile Manufacturing. Elective for others. Prerequisite: Yarn Manufacture I, Tex. 102, 103.
- Tex. 203. Yarn Manufacture III.** 0-3-3
and
- Tex. 204. Yarn Manufacture Laboratory III.** 2-2-2
Required of juniors in Yarn Manufacturing. Prerequisite: Yarn Manufacture I, Tex. 102, 103.
Construction of draw frames; sliver lappers; ribbon lappers; comber; mechanical and electrical stop motions; description and setting of the different parts; weighting of rolls; types of roll covering; care of machines; fly frame builder and differential motions.
Operation and fixing of draw frames; sliver lappers; ribbon lappers; comber and fly frames. Changing of hank roving and the setting of rolls and speeder motions. Mr. Hilton, Mr. Culberson.

Tex. 205. Fabric Design and Analysis I. 3-3-0 or 0-3-3

Required of juniors in Textile Manufacturing and Weaving and Designing. Elective for others.

Prerequisite: Fabric Structure and Analysis, Tex. 106.

Construction of fancy weaves, such as broken twills, curved twills, entwining twills; granite weaves. Imitation leno; honeycomb weaves; fabrics backed with warp or filling; fabrics ornamented with extra warp or filling; combining weaves together to produce new patterns.

Analyzing samples of fancy fabrics for design, drawing in draft, reed, and chain plan. Calculating particulars to reproduce fabric from data obtained from sample.

Mr. Shinn.

Tex. 206. Fabric Design and Analysis II. 0-0-3

Required of seniors in Weaving and Designing. Prerequisite: Fabric Design and Analysis I.

Design and analysis of fancy fabrics. Making fabrics from sketches and specifications.

Mr. Shinn.

Tex. 207. Dobby Weaving. 3-0-0 or 0-0-3
and**Tex. 208. Dobby Weaving Laboratory I.** 1-1-1

Required of juniors in Textile Manufacturing and Yarn Manufacturing. Elective for others.

Tex. 209. Dobby Weaving Laboratory II. 2-2-2

Required of juniors in Weaving and Designing. Prerequisite: Power Weaving, Tex. 107, 108.

Methods of drawing in and starting up cotton and rayon warps. Setting of harness shafts. Selection of springs or spring jacks. Construction and methods of fixing single and double index dobbies. Methods of pattern-chain building.

Preparation of warps for weaving cotton and rayon fabrics on dobbie looms; starting up warps in looms; fixing single and double index dobbies; pattern-chain building; operation of dobbie looms.

Mr. Nelson, Mr. Hart.

Tex. 210. Cotton and Rayon Dyeing. 0-3-0
and**Tex. 211. Cotton and Rayon Dyeing Laboratory I.** 1-1-1

Required of seniors in Textile Manufacturing. Elective for others. Prerequisite: Dyeing I, Tex. 112, 113.

Lectures on color mixing, money value of dyes. Testing of dyes, water, starch, and materials used in sizing. Lubricating oils and oil compounds. Processes and machinery used in dyeing and finishing. Textile printing. Apparatus used in research laboratory.

Color matching. Testing dyes for strength and money value. Physical and chemical examination and application of starches, sizing materials and finishing compounds. Examination of textile oils, soap, and all the different rayons. Analysis of mixed fabrics.

Mr. Grimshaw, Mr. Hayes.

Tex. 212. Dyeing II.

3-3-0

and

Tex. 213. Dyeing Laboratory II.

2-2-2

Required of juniors in Textile Chemistry and Dyeing.

Physical and chemical properties of textile fibres. Lectures on wool, silk, rayon, and cotton; hydrometers and chemicals used in dyeing and finishing. Application of dyestuffs to different fibres. Effect of changing bath, temperature, or time factor. Money value and strength test of dyes. Theory of dyeing mixed fabrics. Mercerizing.

Microscopic examination of textile fibres. Dyeing experiments using different classes of dyes on textile fibres. Tests showing the effects of varying such factors as bath, temperature, and time. Fastness to light, washing, and cross dyeing. Money value and strength of various dyes. Mercerizing.

Mr. Grimshaw, Mr. Hayes.

Tex. 214. Textile Printing.

3-0-0

and

Tex. 215. Textile Printing Laboratory.

1-1-1

Prerequisite: Dyeing II, Tex. 212, 213.

The history of printing and the development of machinery used. Calico printing with the mordant, basic, and vat colors, aniline black, indigo, and insoluble azo colors. Resist and discharge styles.

Paste mixing. Practical experiments.

Mr. Grimshaw, Mr. Hayes.

Tex. 216. Principles of Fabric Finishing.

0-0-3

and

Tex. 217. Principles of Fabric Finishing Laboratory.

1-1-1

Elective for Textile students.

A study of machinery used in finishing of textile fabrics and in textile printing, with lectures and pictures. Lectures on materials used in the textile finishing and printing industry and experiments. Mr. Grimshaw.

Courses for Graduates and Advanced Undergraduates

Tex. 301. Yarn Manufacture IV.

3-0-0 or 0-0-3

and

Tex. 302. Yarn Manufacture Laboratory IV.

1-1-1

Required of seniors in Textile Manufacturing. Elective for others. Prerequisite: Yarn Manufacture, Tex. 201, 202.

Tex. 303. Yarn Manufacture V.

3-3-0

and

Tex. 304. Yarn Manufacture Laboratory V.

2-2-2

Required of seniors in Yarn Manufacturing. Prerequisite: Yarn Manufacture, Tex. 203, 204.

Spinning; spooling; twisting. Description and setting of different parts. Builder motions for warp and filling. Bobbin holders, thread guides, traverse motions. Ply yarns. Calculations for twist, speed, and production.

Practical methods of spinning, spooling, winding and twisting. Setting of spinning rolls, spinning frame builder motions for warp, filling, and combination build. The practical application of all machines in Yarn Manufacture.
Mr. Hilton, Mr. Culberson.

Tex. 305. Knitting II. 0-3-0
and

Tex. 306. Knitting Laboratory II. 1-1-1

Elective for Textile students. Prerequisite: Knitting I, Tex. 104, 105.

Advanced circular mechanisms. Hosiery design. Auxiliary knitting machinery. Warp and spring needle knitting. Knitting machinery lay-out and organization. Production control and costs. Laboratory experiments.

Mr. Lewis.

Tex. 307. Textile Calculations I. 3-0-0

Required of seniors in Yarn Manufacturing. Elective for others. Prerequisite: Yarn Manufacture, Tex. 102.

Principles underlying the calculation of draft, twist, speed, and production. Systems of numbering yarns. Doubling and twisting yarns. Lay, tension, differential, and cone drum calculations. Practice in solving practical mill problems.

Mr. Hilton.

Tex. 308. Manufacturing Problems. 0-0-3

Required of seniors in Yarn Manufacturing. Elective for others. Prerequisite: Yarn Manufacture, Tex. 201.

Mill organization and administration. Machine layout for long and regular draft spinning; production control and costs; making of novelty yarns; making of daily and weekly reports; breaking of single and ply yarns. Regular and reverse twisted yarns.

Mr. Hilton.

Tex. 310. Jacquard Design Laboratory. 1-1-1

Required of seniors in Weaving and Designing.

Designing fancy and jacquard fabrics. Methods of making original designs by combinations of color, weave, and sketches. Designs for table napkins, table covers, dress goods, draperies.

Mr. Nelson, Mr. Shinn.

Tex. 311. Fabric Analysis. 2-2-0

Required of seniors in Textile Manufacturing and Weaving and Designing. Elective for others. Prerequisite: Fabric Design and Analysis, Tex. 205.

Analyzing samples of cotton, wool, worsted, linen, rayon, and silk fabrics for size of yarns, ends and picks per inch, weight of warp and filling, so as to accurately reproduce samples analyzed. Obtaining design, drawing in draft, chain, and reed plan for fancy fabrics, such as stripes, checks, extra warp and extra filling figures, leno fabrics, jacquard fabrics, draperies.

Mr. Nelson, Mr. Shinn.

Tex. 312. Cotton and Rayon Weaving. 0-0-3
and

Tex. 313. Cotton and Rayon Weaving Laboratory I. 1-1-1

Required of seniors in Textile Manufacturing.

Elective for others. Prerequisite: Dobby Weaving, Tex. 207, 208.

Tex. 314. Cotton and Rayon Weaving Laboratory II. 2-2-2

Required of seniors in Weaving and Designing. Prerequisite: Dobby Weaving, Tex. 209.

Principles of loom construction to weave rayon and fine cotton fabrics. Pick and pick looms. Box and multiplier chain-building. Arrangement of colors in boxes to give easy running loom. Extra appliances for weaving leno, towel, and other pile fabrics. Construction and operation of single, double lift, and rise and fall jacquards. Tie-up of harness for dress goods, table napkins, damask, and other jacquard fabrics, such as leno. Relative speed of looms. Production calculations and fabric costs.

Operation and fixing of dobby, pick and pick, and jacquard looms. Preparation of warps to weave rayon and fine cotton fabrics. Building of box, dobby, and multiplier chains.

Mr. Nelson, Mr. Hart.

Tex. 315. Color in Woven Design. 3-3-0

Required of seniors in Weaving and Designing. Elective for others. Prerequisite: Fabric Structure and Analysis, Tex. 106.

Pigment and light theories of color. Contrast and harmony of color. Factors which influence quality, style, and color. Methods of applying weaves and color to fabrics for wearing apparel and home decorations. Mr. Hart.

Tex. 316. Textile Calculations II. 0-0-3

Required of juniors in Textile Manufacturing and Weaving and Designing. Elective for others. Prerequisite: Fabric Structure and Analysis, Tex. 106.

An intensive course in calculations for designing, weaving, and analyzing cotton, rayon, silk, wool, worsted and linen yarns and fabrics. Weight of fabrics, ends and picks per inch. Costing of fabrics. Reed and harness calculations. Loom speed and production.

Mr. Hart.

Tex. 317. Cotton and Rayon Dyeing II. 0-3-3
and

Tex. 318. Cotton and Rayon Dyeing Laboratory II. 2-2-2

Required of seniors in Textile Chemistry and Dyeing. Prerequisite: Dyeing II, Tex. 212, 213.

Theories of color matching. Lectures on color mixing, water and mold, starch, materials used in sizing. Lubricating oils, textile oils and oil compounds. Processes and machinery used in dyeing and finishing. Method of analyzing textile fabrics. Laboratory equipment used in textile research and testing laboratories.

Color matching. Physical and chemical examination and application of textile oils, soaps, and finishing compounds. Microscopical and chemical tests on rayons. Dyeing various types of rayon. Operation of dyeing and finishing equipment in the dye house and research laboratories.

Mr. Grimshaw.

Tex. 319. Textile Testing.

1-1-1

Elective for Textile students. Prerequisite: Fabric Testing, Tex. 109 or equivalent.

Tests for moisture content, regain, twist, and tensile strength. Description and operation of testing equipment. Solution and written reports of assigned textile problems.

Mr. Hart, Mr. Hilton.

Tex. 320. Leno Design.

3-0-0 or 0-3-0

Required of seniors in Textile Manufacturing and in Weaving and Designing. Elective for others. Prerequisite: Fabric Design and Analysis, Tex. 205.

Leno weaves with one, two, or more sets of doup. Combinations of plain and fancy weaves with leno. Methods of obtaining leno patterns. Methods of making original designs for dress goods, draperies.

Mr. Nelson, Mr. Shinn.

Tex. 321. Dobby Design.

3-0-0 or 0-3-0

Required of seniors in Textile Manufacturing and in Weaving and Designing. Elective for others. Prerequisite: Fabric Design and Analysis, Tex. 205.

Designing fabrics, such as fancy crepes, figured double plain, matelasse, velvets, corduroys, pique, lines of samples.

Mr. Nelson.

Tex. 322. Jacquard Design.

0-0-3

Designing. Elective for others. Prerequisite: Fabric Design and Analysis I,

Required of seniors in Textile Manufacturing and juniors in Weaving and Tex. 205.

Designing fancy and jacquard fabrics. Methods of making original designs for table napkins, table covers, dress goods, draperies.

Mr. Nelson, Mr. Shinn.

Tex. 330. Calculating Fabric Costs.

0-3-0

Elective for Textile students. Prerequisite: Fabric Structure and Analysis, Tex. 106.

Special attention is given to distribution of costs to various productive processes, summarizing costs, the determination and use of unit costs, and the making of cost reports.

Mr. Shinn.

Courses for Graduates Only**Tex. 401. Yarn Manufacture.**

3-3-3

A study of breaking strength and related properties of cotton yarns made under various atmospheric conditions; comparison of yarns produced from long and short-staple cotton with regular and special carding processes; efficiency of various roller covering materials at the drawing processes; elimination of roving processes by special methods of preparation; comparison of regular and long-draft spinning.

Mr. Hilton.

Tex. 402. Textile Research.

3-3-3

A study of the moisture content of cotton yarns and fabrics. The convolutions in cotton fibres and their relation to spinning, weaving, and dyeing. The effect of mercerization on cotton yarns and fabrics. Testing yarns and fabrics under variable conditions for breaking strength and elasticity.

Textile Staff.

Tex. 403. Textile Design and Weaving.

3-3-3

Study and practice in more advanced designing and analyses of fabrics, such as lenos made with twine and wire doups, lappits, and other fancy fabrics. Designing for jacquard dress goods, table covers, reversibles, and other fabrics. Making original designs for dobby and jacquard fabrics. Fabric costs. Weaving fancy and jacquard fabrics.

Messrs. Nelson, Hart, and Shinn.

Tex. 405. Domestic and Imported Fabrics.

0-3-0

A technical study of imported and domestic fabrics, such as broadcloths, venetian, organdy, lawn, voile, crepe, shirting, dotted swiss, drapery, and other fabrics used for decorative purposes.

Types and characteristics of fabrics imported and exported by foreign countries. Qualities and styles of textile fabrics.

Mr. Nelson.

Tex. 406. Textile Dyeing.

3-3-3

The course consists of matching shades from standard and season color cards upon classes of materials which require skill in their dyeing, such as three-fibre, cotton-wool, and half-silk hosiery, woollens and worsteds with effect stripes, and cotton fabrics with woven figures or stripes of the different varieties of artificial silk. Advanced work on chemical and microscopical examination of materials used in dyeing and finishing.

Mr. Grimshaw.

Tex. 407. Advanced Textile Microscopy.

0-0-3

Microscopic study of textile starches, fibres, fabrics, oils, etc.

Study of mounting media for above. Methods of mounting textile materials. Methods of cross-sectioning textile materials. Photomicrography.

Mr. Grimshaw.

Tex. 408. Seminar.

1-1-1

Discussion of scientific articles of interest to textile industry. Review and discussion of student papers and research problems.

Textile Staff.

ZOOLOGY**Courses for Undergraduates****Zool. 101. General Zoology.**

4-0-0

An elementary study of animals, with special reference in the morphology and physiology of the vertebrates.

Messrs. Metcalf, Mitchell, Meacham, Bostian, McCutcheon, Harkema.

Zool. 102. Economic Zoology.

0-4-0

An elementary study of animals with special reference to the more important economic groups; designed to give the student a general knowledge of the animal kingdom.

Messrs. Metcalf, Mitchell, Meacham, Bostian, McCutcheon, Harkema.

Zool. Ex. 107. Physiology and Hygiene.

3 credits

An elementary study of human physiology sufficient to serve as a basis for the principles of correct hygiene.

Mr. Bostian.

Zool. Ex. 108. Heredity and Eugenics.

3 credits

Basic principles of heredity and their application to human problems.

Mr. Bostian.

Zool. 109. Elementary Wildlife Management.

0-0-1

Required of freshmen in Game Management.

An introductory survey of the various branches in the field of wildlife management.

Mr. Stevens.

Courses for Advanced Undergraduates

Zool. 201. Animal Physiology.

0-0-5

Prerequisite: Zool. 101.

Comparative physiology of vertebrates, with particular reference to mammals and man. Detailed studies of various functions, with metabolism emphasized.

Mr. McCutcheon.

Zool. 204. Economic Entomology.

0-0-4

Prerequisite: Zool. 102.

A general study of the insects, including their economic importance and the principles of control.

Messrs. Mitchell, Meacham, and Bostian.

Zool. 205. Comparative Anatomy.

0-4-4

Prerequisite: Zool. 101.

Comparative morphology of vertebrates. Interrelations of organ systems studied for the various groups.

Mr. Harkema.

Zool. 207. Vertebrate Embryology.

5-0-0

Prerequisite: Zool. 101.

The comparative embryology of the principal groups of vertebrates, with special emphasis on the chick.

Mr. Harkema.

Zool. 208, 209. Beekeeping.

3-0-3

Elective for juniors and seniors. Prerequisite: Zool. 102.

Designed to give the principles of scientific beekeeping and honey marketing.

Mr. Meacham.

Zool. 210. Forest Entomology. 0-3-0

Prerequisite: Zool. 204.

A special study of forest insects, including the factors governing abundance, and the application of this knowledge in control. Mr. Mitchell.

Zool. Ex. 220. Animal Nature Study. 3 credits

Prerequisite: Zool. 101, 204, or 205.

For grade school teachers and high school science instructors.

Messrs. Metcalf, Mitchell, and Bostian.

Zool. 222. Ornithology. 2-2-2

Prerequisite: Zool. 101, 102.

A course dealing with the biology and morphology of North American birds. Mr. Metcalf.

Zool. 225. Principles of Game Management. 0-3-0

Elective for juniors and seniors not in Game Management.

Brief survey of the field, study of the major principles involved, and the correlation of wildlife management with other land uses. Mr. Stevens.

Courses for Graduates and Advanced Undergraduates**Zool. 301. Applied Entomology.** 3-3-3

Prerequisite: Zool. 204.

A detailed study of the relation of insects to human welfare and the principles of insect control; the special study of the more important insects directly or indirectly affecting man; and a special study of methods of investigation. Mr. Mitchell.

Zool. 304. Genetics. 4-0-0

Required of juniors in Animal Prod. Prerequisite: Bot. 101 and 102 or Zool. 101.

Basic principles of heredity and variation. Students carry on and analyze breeding experiments, analyze inheritance in various animals and plants. Mr. Bostian.

Zool. 305. Advanced Genetics. 0-4-4

An advanced study of heredity and variation, including biometry. The student will select a problem in breeding to be carried out as a part of the course. Mr. Bostian.

Zool. 307. Systematic Zoology. 3-3-3

Prerequisite: Zool. 101, 102.

The classification of various groups of animals.

Mr. Metcalf, Mr. Mitchell.

Zool. 309. Field Zoology.

0-0-4

Prerequisite: Zool. 101, and 204 or 205, 206.

The study of the relation between animals and their environment. Frequent excursions to the field will be taken. Mr. Metcalf. Mr. Bostian.

Zool. 310. Wildlife Conservation.

3-3-3

Required of juniors in Wildlife Conservation and Management. Prerequisites: Zool. 222. F. C. 101. Bot. 101, 102, 204.

History of game and wildlife management. Relation of wildlife conservation to soil and forest conservation. National and State park, and general farming operations. Mr. Stevens.

***Zool. 315. Histology.**

3-3-0

A study of animal tissues and their preparation. Mr. Harkema.

Zool. 320. Wildlife Management.

3-3-3

Prerequisite: Zool. 310.

Study of the foods and feeding habits of the more important groups of wild animals. Field and laboratory studies of wildlife management and research, and the economic relations of game, predatory, and fur-bearing animals. Mr. Stevens.

Zool. 324. Advanced Animal Ecology.

0-3-3

Prerequisite: Zool. 309.

A course devoted to animal geography and the factors which influence the distribution of animals. Mr. Metcalf.

Zool. 326. Fur Resources.

0-3-0

Prerequisite: Zool. 310.

Study of the fur industry, the life history and management of the important fur-bearing animals, skinning, drying, marketing pelts, and fur farming. Mr. Stevens.

***Zool. 328. Parasitology.**

0-3-3

Prerequisites: Zool. 101, 102, 205.

A study of the structures, life-cycles and control of animal parasites. Mr. Harkema.

Zool. 330. Advanced Physiology.

3-3-0

Prerequisites: Zool. 101, 102, 201.

Special studies in animal physiology with emphasis on fundamental processes involved. Lectures, reports, and conferences to promote an acquaintance with general literature and recent advances; selected exercises and demonstrations to develop experimental technic. Mr. McCutcheon.

Zool. 334. Insect Physiology.

0-3-0

Prerequisite: Zool. 201.

Selected reports, demonstrations and discussions to survey the specialized functions of insects.

Mr. McCutcheon.

Zool. 336. Advanced Wildlife Management.

3-3-3

Prerequisite: Concurrently with or preceded by Zool. 310.

An assigned problem to be planned and worked out by the student. A term paper covering the procedure.

Mr. Stevens.

Zool. 338. Advanced Food Habits Problems.

3-3-3

Prerequisite: Concurrently with or preceded by Zool. 320.

Assigned or selected problem dealing with the foods and feeding habits of one species of wild animal or a group of similar wild animals.

Mr. Stevens.

Courses for Graduates Only**Zool. 401, 402. Systematic Entomology.**

3-3-3

Prerequisite: Zool. 307.

Codes of nomenclature, methods of writing descriptions, constructing keys, determining priority, selecting and preserving types, and making bibliographies and indexes.

Mr. Metcalf, Mr. Mitchell.

Zool. 403, 404. Research in Zoology.

3-3-3

Prerequisite: Eighteen term credits in Zoology.

Problems in development, life history, morphology, physiology, ecology, genetics, game, management, taxonomy, or parasitology.

Messrs. Metcalf, Meacham, Mitchell, Bostian, McCutcheon, Harkema, Stevens.

Zool. 405. Seminar.

1-1-1

Prerequisite: Eighteen term credits in Zoology.

Mr. Metcalf.

INFORMATION REGARDING DORMITORIES AND ROOM RENTALS

Housing Plan for Freshmen

The freshman housing plan has been in operation for four years and has been very successful in adjusting freshmen to College life.

The College administration has set aside Fourth, Fifth, Sixth, and South Dormitories as freshmen dormitories. All freshmen, except those living at home with their parents, will be required to room in one of these dormitories.

Educational Counselors, selected from seniors and junior members of the faculty, will be given rooms in these dormitories. The function of these counselors will be to assist freshmen in adjusting themselves to their new life on the campus. The dormitories will be conducted under the rules of the Student Government of the College.

Any communication regarding exemption from this plan of housing for freshmen should be addressed to the Dean of Students, State College, Raleigh, N. C.

Dormitory Rentals

Rooms in the College dormitories must be reserved in advance. No room will be assigned until the first payment has been made, and this is due on or before August 15th, or as soon thereafter as a student may be billed. Rooms reserved prior to August 15th will be held until then, after which time, if the payment has not been received, they will be assigned to others.

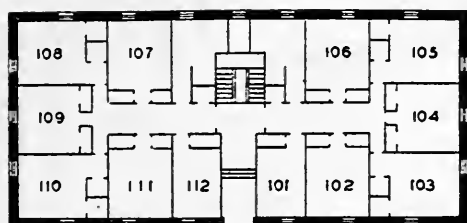
The rooms in the College dormitories are equipped for two students in each room and the cost per student ranges from \$49.50 to \$78.00 for the school year. A few rooms are available for less. The prices given on the following pages show the cost for each student. Room rent is payable in three equal installments; the first prior to the September registration, as stated above, the second and third on registration days in January and March.

All dormitories are well located in reference to the other buildings on the campus, and the difference in price is due to the size of the room, location within the building, and conveniences that have been installed.

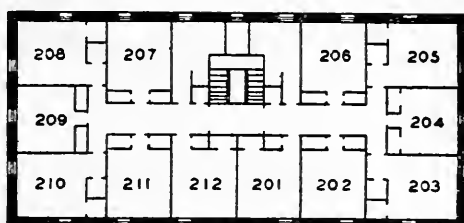
Hot water, heat, and electric lights are furnished throughout the dormitories with the exception of the rooms in Fifth, Sixth, Seventh and South, which do not have running hot water.

Each occupant of a dormitory room must provide a pillow, pillow cases, single sheets, blankets, towels, etc., and whatever rugs, curtains, etc., he may desire.

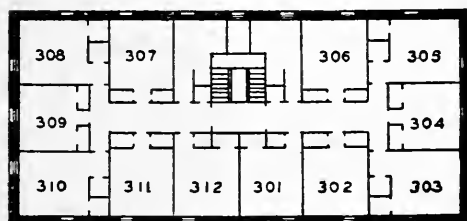
FRESHMAN DORMITORIES



FIRST FLOOR
FIFTH DORMITORY



SECOND FLOOR
FIFTH DORMITORY



THIRD FLOOR
FIFTH DORMITORY

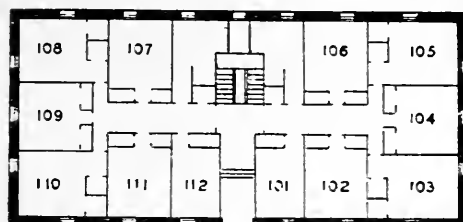
FIFTH DORMITORY RENTALS

\$21.00 per quarter rooms No. 103, 105, 108, 110.

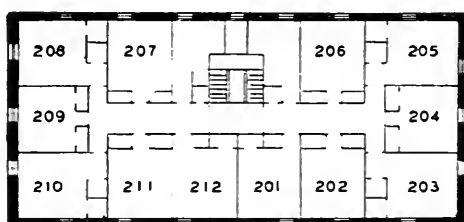
\$16.50 per quarter rooms No. 101, 102, 106, 107, 111, 112, 204, 209, 304 and 309.

\$13.50 per quarter rooms No. 104 and 109.

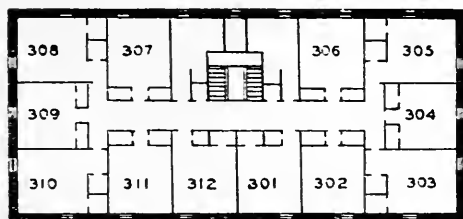
\$24.00 per quarter all other rooms.



FIRST FLOOR
SIXTH DORMITORY



SECOND FLOOR
SIXTH DORMITORY



THIRD FLOOR
SIXTH DORMITORY

SIXTH DORMITORY RENTALS

\$21.00 per quarter rooms No. 103, 105, 108 and 110.

\$16.50 per quarter rooms No. 101, 102, 106, 107, 111, 112, 204, 209, 304 and 309.

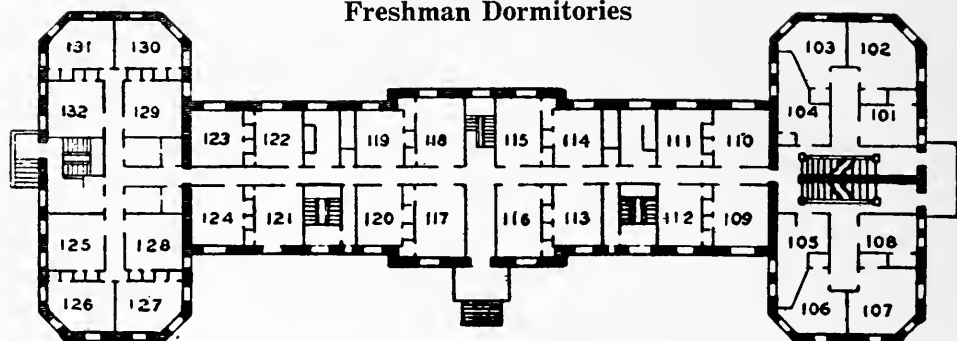
\$13.50 per quarter rooms No. 104 and 109.

\$24.00 per quarter, all other rooms.

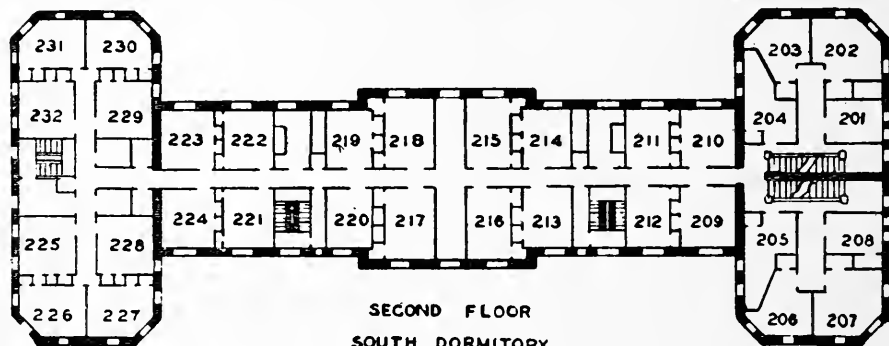
Total Room Rent	Payable Aug. 15	Payable January	Payable March
\$72.00	\$24.00	\$24.00	\$24.00
63.00	21.00	21.00	21.00
49.50	16.50	16.50	16.50
40.50	13.50	13.50	13.50

STATE COLLEGE CATALOG

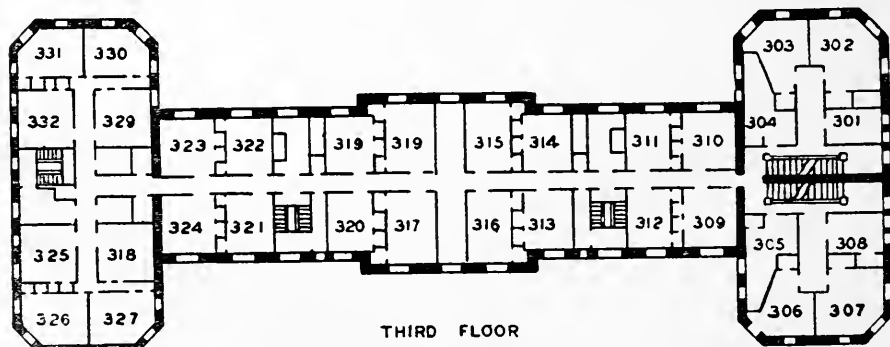
Freshman Dormitories



FIRST FLOOR
SOUTH DORMITORY



SECOND FLOOR
SOUTH DORMITORY



THIRD FLOOR
SOUTH DORMITORY

SOUTH DORMITORY RENTALS

\$22.50 per quarter rooms No. 109, 110, 123, 124, 125, 132, 209, 210, 223, 224, 225, 232, 309, 310, 323, 324, 325 and 332.

\$19.50 per quarter rooms No. 101, 104, 105, 108, 128, 129, 201, 204, 205, 208, 228, 229, 301, 304, 305, 308, 328 and 329.

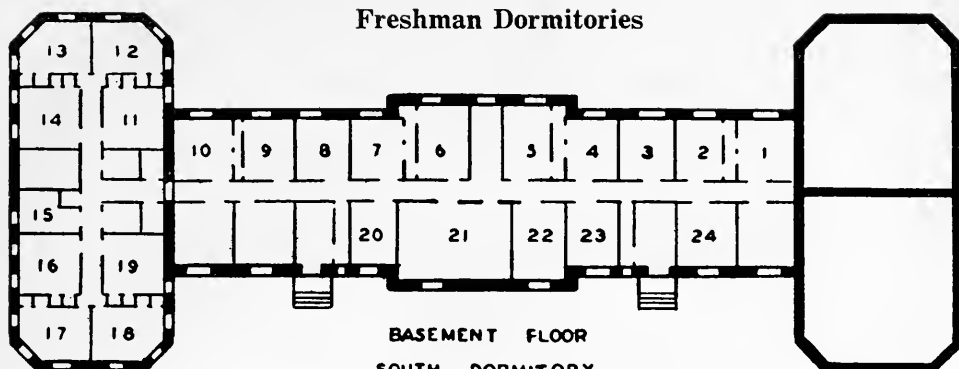
\$24.00 per quarter, all other rooms.

Total Room Rent	Payable Aug. 15	Payable January	Payable March
\$72.00	\$24.00	\$24.00	\$24.00
67.50	22.50	22.50	22.50
58.50	19.50	19.50	19.50

DORMITORIES

Freshman Dormitories

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BASEMENT FLOOR

SOUTH DORMITORY

SOUTH DORMITORY RENTALS

(Basement Floor)

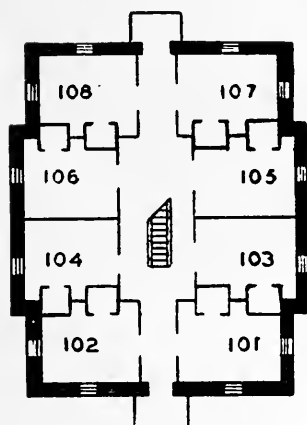
\$13.50 per quarter rooms No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14, 20, 21, 22, 23 and 24.

\$10.50 per quarter rooms No. 10, 15 and 17.

\$ 7.50 per quarter rooms No. 11, 18 and 19.

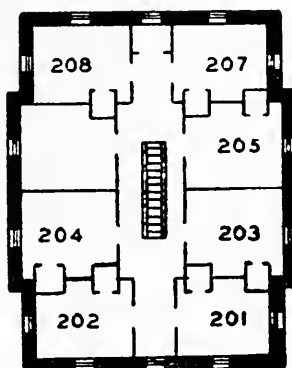
\$ 4.50 per quarter room No. 16

<i>Total Room Rent</i>	<i>Payable Aug. 15</i>	<i>Payable January</i>	<i>Payable March</i>
\$40.50	\$13.50	\$13.50	\$13.50
31.50	10.50	10.50	10.50
22.50	7.50	7.50	7.50
13.50	4.50	4.50	4.50



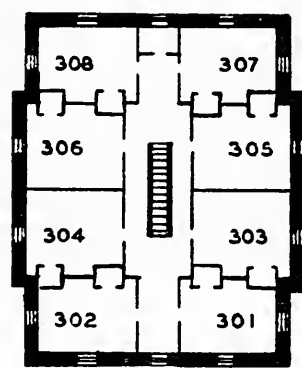
FIRST FLOOR

FOURTH DORMITORY



SECOND FLOOR

FOURTH DORMITORY



THIRD FLOOR

FOURTH DORMITORY

FOURTH DORMITORY RENTALS

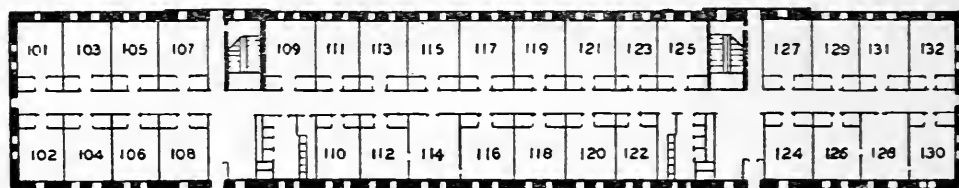
\$25.50 per quarter rooms No. 101, 102, 107, 108, 303, 304, 305 and 306.

\$19.50 per quarter rooms No. 103, 104, 105 and 106.

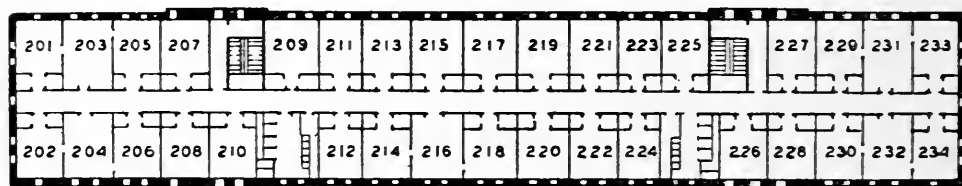
\$26.00 per quarter, all other rooms.

<i>Total Room Rent</i>	<i>Payable Aug. 15</i>	<i>Payable January</i>	<i>Payable March</i>
\$67.50	\$22.50	\$22.50	\$22.50
58.50	19.50	19.50	19.50
78.00	26.00	26.00	26.00

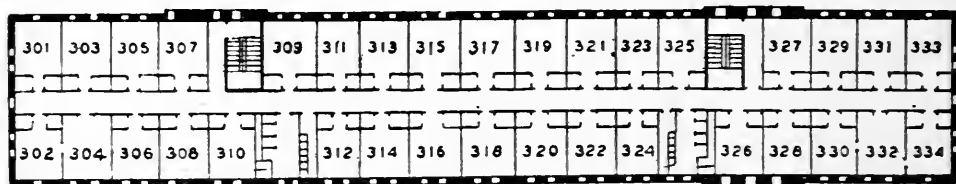
UPPERCLASS DORMITORIES



FIRST FLOOR
SEVENTH DORMITORY



SECOND FLOOR
SEVENTH DORMITORY



THIRD FLOOR
SEVENTH DORMITORY

SEVENTH DORMITORY RENTALS

\$16.50 per quarter rooms No. 101 to 134, 207, 208, 227, 228, 307, 308, 327 and 328.

\$10.50 per quarter rooms No. 203, 204, 231, 232, 304 and 332.

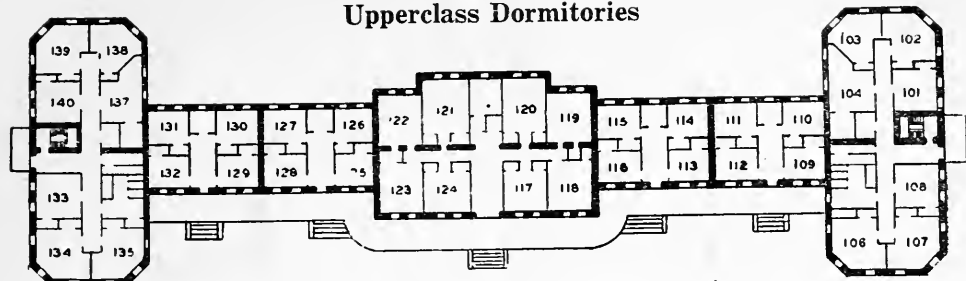
\$26.00 per quarter, all other rooms.

<i>Total Room Rent</i>	<i>Payable Aug. 15</i>	<i>Payable January</i>	<i>Payable March</i>
\$78.00	\$26.00	\$26.00	\$26.00
49.50	16.50	16.50	16.50
31.50	10.50	10.50	10.50

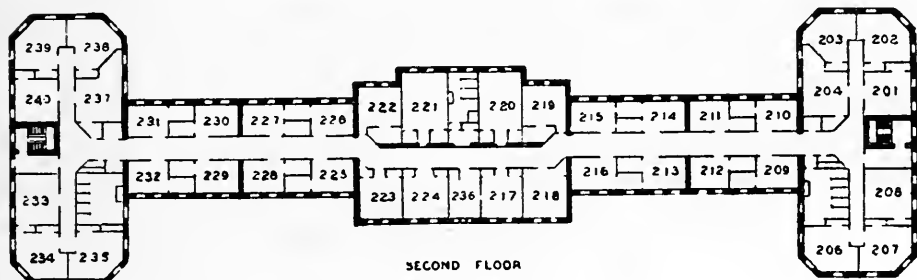
DORMITORIES

Upperclass Dormitories

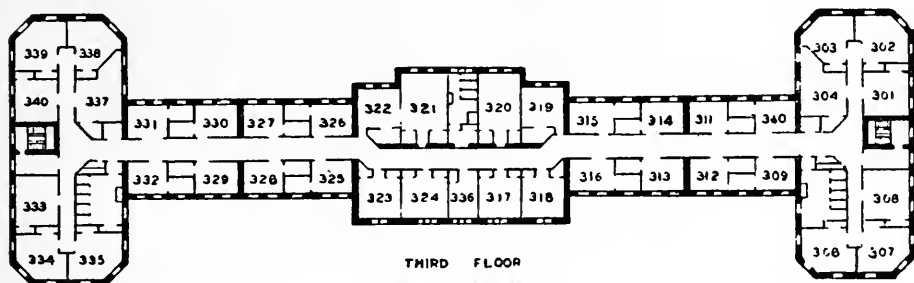
279



FIRST FLOOR
1911 DORMITORY



SECOND FLOOR
1911 DORMITORY



THIRD FLOOR
1911 DORMITORY

1911 DORMITORY RENTALS

\$22.50 per quarter rooms No. 102, 103, 106, 107, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 133, 134, 135, 138, 139 and 140.

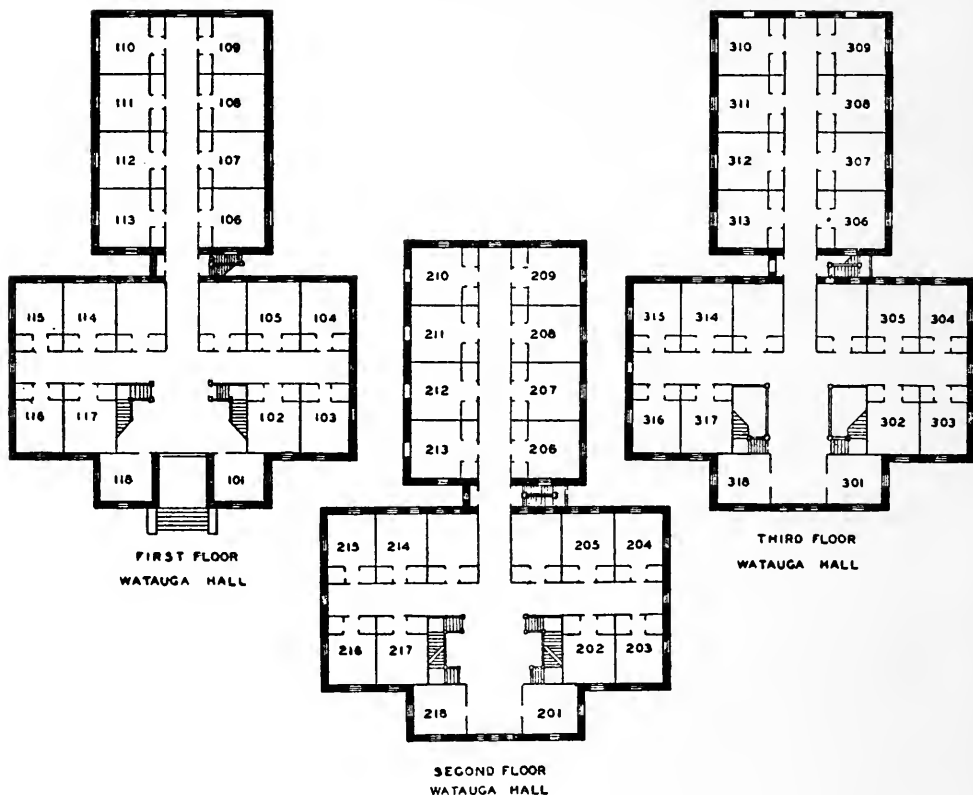
\$19.50 per quarter rooms No. 101, 104, 108, 131, 132 and 137.

\$16.50 per quarter rooms No. 236 and 336.

\$26.00 per quarter, all other rooms.

Total Room Rent	Payable Aug. 15	Payable January	Payable March
\$78.00	\$26.00	\$26.00	\$26.00
67.50	22.50	22.50	22.50
58.50	19.50	19.50	19.50
49.50	16.50	16.50	16.50

Upperclass Dormitories



WATAUGA DORMITORY RENTALS

\$22.50 per quarter rooms No. 101, 102, 105, 106, 113, 117, 118, 205, 206, 305 and 306.

\$26.00 per quarter, all other rooms.

<i>Total Room Rent</i>	<i>Payable Aug. 15</i>	<i>Payable January</i>	<i>Payable March</i>
\$78.00	\$26.00	\$26.00	\$26.00
67.50	22.50	22.50	22.50

Dormitory Regulations

The dormitories of the College are the property of the State and have been provided for students of State College in order that they may have a convenient and comfortable place in which to live at a reasonable cost. The dormitory, therefore, is the student's College home. The following regulations will be enforced against all students renting rooms.

1. The College reserves the right to terminate the lease on any dormitory room if the student is guilty of repeated violations of dormitory regulations.

2. The right is reserved to the proper College authorities to enter any room at any time for purposes of inspection, cleaning, or repairing said room.

3. The College will supply heat, water, janitor services, and keep the building in repair. It further will furnish electric current for lighting between sunset and midnight. **NO COOKING WILL BE PERMITTED IN ROOMS.** The use or possession of any kind of stove or electric appliance whatever such as alcohol stoves, thermo heaters, electric hot water cups, irons, heaters, grills, toasters, etc., is strictly prohibited. College authorities upon finding any unauthorized appliances in rooms, will remove said articles to the warehouse where they will be held until the owner gives up his room. It will then be construed that the unauthorized appliances have been in use from the time the room was assigned the student up to and including date of removal and charges will be made for such use in accordance with commercial rate against the owner or owners of said appliances.

4. The student will be held responsible for and will be required to make good any damage done either by the breaking of fixtures, doors, locks, window lights, or other property, during the time of occupancy, and pay for all damage caused by his neglect, misuse or abuse of the electric fixtures or wiring, or for the water, steam, or sanitary fixtures. The student is personally responsible for the room and contents, and must deliver up the same at the end of his term of occupancy in as good condition as at the beginning, ordinary wear and tear excepted.

5. One **SIXTY WATT** electric lamp will be allowed for each occupant of a room. Any lamps in excess of sixty watts will be taken up. Charges will be made against occupants of rooms where current is used in excess of the amount prescribed. State Law, State Insurance Regulations, and College Regulations prohibit tampering with electric wires or fixtures or the repair or installation thereof by any person except a duly licensed electrician who in this case will be none other than the State College electrician. Where unauthorized wiring is found in rooms, the same will be removed and the proper installation made by the college electrician, his time and the material used to be charged against those violating this regulation.

6. College furniture must not be removed from the room in which it has been placed.

7. Locks on doors must not be changed.
8. Repairing or storing of motorcycles or automobiles or bringing any part of them in buildings is prohibited.
9. Pictures and pennants should be hung from the picture moulding and not tacked or pasted on walls or woodwork.
10. Students will be expected to keep all clothing and shoes in their proper place, to keep books and papers in order, and in all other ways to cooperate with dormitory employees in the care of the rooms.
11. Only registered students or officers regularly assigned to a room have authority to occupy a room in a dormitory; and if students change rooms without permission, or if other persons, except temporary visitors, occupy a room, the occupants to whom such room is assigned will be charged extra for receiving roomers without executive authority. The College authorities reserve the right to determine who is a "temporary visitor."
12. Rents shall be payable as follows:
Rent for the first term.....On or before August 15th.
Rent for the second term.....On or before the January Registration.
Rent for the third term.....On or before the March Registration.
13. Room reservation may be canceled by the student at any time before September 10th. Formal notice must be given the Superintendent of Buildings in writing on or before that date.
14. Refunds of room rents shall be in accordance with the published rules of the College.
15. No sub-letting of rooms will be permitted.
16. The use or possession of intoxicating liquor by students in any of the dormitories or on the premises of the College is forbidden.
17. There shall be no gambling in the dormitories.
18. Animals shall not be kept in the dormitories.
19. Women shall not be admitted to the dormitories at any time.

Assignment of Rooms

Applications by new students for rooms for the following session will be considered in order of application.

If none of the rooms specifically applied for be available, assignment to rooms of similar price and location will be made.

Individual preferences in regard to room-mates will be complied with whenever possible.

Mail

Mail is delivered to the dormitories twice daily with the exception of Sundays and holidays. Boxes, representing the rooms to which students are assigned, are conveniently located at the entrance to each dormitory.

A student may rent a box at the Post Office if he desires, although this is not necessary. Students will be notified of registered or insured mail by the Post Office Department. Such mail should be called for at the Post Office.

College Refunds

A student withdrawing from College within ten days from the date of entrance will be refunded the amount paid, less the registration fee and a reasonable charge for board, lodging, and services while in college.

A student withdrawing from college later than ten days from the date of entrance will receive no refund except for board and military deposit. Refunds for board shall be under the usual regulations governing withdrawal from the dining hall.

A room reservation may be canceled at any time before September first, and, in case formal notice is given the Superintendent of Buildings in writing before that date, the full amount paid will be refunded.

No student will be allowed a refund of first term room rent after September first unless he is withdrawing from College. If a student is withdrawing from College, the case will be considered on its merits.

A student withdrawing from a dormitory room regularly assigned and occupied for a period of ten days will be entitled to no refund for room rent.

Estimate of Expenses

The total cost of attendance for the school year will be approximately \$450 for residents of North Carolina and \$550.00 for students who are not residents of the State. This estimate is for tuition, all fees collected by the College, board, room, and an allowance for books and supplies. It does not include laundry or the personal items of the students.

When a student enters in September he will need money for the following items:

Tuition and Fees	\$89.00 to \$91.00
Room rent (if not paid prior to registration).....	19.50 to 26.00
Board for September (about).....	12.00
Books and Supplies.....	20.00 to 35.00
Drawing Equipment (for those taking drawing).....	7.50 to 17.50
Military Deposit (refunded when equipment is returned).....	10.00
Military shoes and supplies (about).....	6.00

During each month of the year the student will need money for board. This is due the first of each calendar month for students boarding by the month.

At the January registration the student will need funds for the following items:

Tuition and fees	\$88.00 to \$93.00
Room rent	19.50 to 26.00
January board (about).....	19.00
Books and supplies (about).....	8.00

At the March registration the student will need to pay the balance of his room rent.

Students who are not legal residents of North Carolina will need \$50.00 additional in September and \$50 additional in January.

SUMMARY OF ENROLLMENT, 1937-38 *

1. Resident Students.		
A. Candidates for Degrees.		
1. Freshmen	853	
2. Sophomores	559	
3. Juniors	336	
4. Seniors	340	
5. Graduates	91	
6. Graduates for Professional Degrees.....	3	
Total.....	2,182	
B. Irregular Students.		
†1. Extension Classes in Raleigh and Cary.....	251	
2. Special Students (No College Credit).....	7	
Total.....	258	2,440
2. Non-resident Students.†		
A. Correspondence Students for College Credit.....	1,217	
B. Extension Students (Classes Outside Raleigh).....	1,433	
C. Correspondence Students in Practical Courses (No College Credit).....	76	
Total.....	2,726	5,166
3. Summer School Students 1937.		
A. Regular Students.		
1. Six Weeks	623	
2. Three Weeks	156	
3. Ten Weeks	36	
B. Cotton Classing Students (six weeks) ; no college credit	24	
C. Specials—No College credit.....	42	
Total.....	885	6,051
4. Short Courses and Special Conferences.		
1. Agricultural Teachers (One Week).....	251	
2. Farm Boys and Girls (One Week).....	963	
3. Farm Men and Women.....	1,874	
4. Young Tar Heel Farmers (Three Days).....	492	
5. Janitor's School (One Week).....	42	
6. Waterworks Operators (Four Days).....	71	
7. Tobacco Short Course (Five Days).....	381	
8. Air Conditioning (Nine Weeks).....	26	
9. Plumbing and Heating Contractors (Three Days).....	154	
10. Coal Conference (Two Days).....	177	
11. Meter School (Four Days).....	68	
12. Practical Electricity (Twenty Weeks).....	50	
13. Gas Plant Operators (Two Days).....	38	
Total.....	4,587	
Grand Total.....		10,638

* Does not include Spring Term, 1937-38.

† Data from January, 1937, to January, 1938.

ENROLLMENT BY CURRICULA*Agriculture and Forestry**

Agriculture	241
Agricultural Engineering	23
Agricultural Options	146
Forestry	209
Landscape Architecture	6
Game Management	5

Total..... 630

Education

High School Teaching.....	20
Industrial Arts	30
Agricultural Education	156
Special—No Credit	6

Total..... 212

Engineering

Architectural	38
Ceramic	57
Chemical	235
Civil	85
1. Construction Option	40
2. Highway Option	2
3. Sanitary Option	3
Electrical	184
Geological	6
Industrial	34
Mechanical	172
1. Aeronautical Option.....	86
Mathematics and Physics.....	3

Total..... 945

Science and Business

Industrial Management	18
Biology	5
Chemistry	3
Special—No Credit	1

Total..... 27

Textiles

Chemistry and Dyeing.....	45
Manufacturing	257
Yarn Manufacturing	1
Weaving and Designing.....	20
Textile Management	49

Total..... 372

Graduate

(Counted in Departmental
Classification)

Graduate Students in:

Agriculture	53
Education	17
Engineering	16
Science and Business.....	0
Textiles	5
Candidates for Professional Degrees	3

Total..... 94

* Graduate students are classified by departments except for Professional Degree Candidates.

FORTY-EIGHTH ANNUAL COMMENCEMENT

Monday Evening, June 7, 1937

DEGREES CONFERRED

SCHOOL OF AGRICULTURE AND FORESTRY

Bachelor of Science

IN AGRICULTURE

John Gardner Abrams.....	New Bedford, Mass.
Geroge Aston Adams.....	Shelby
Frank Hamilton Brown, Jr.....	Cullowhee
Henry Gilbert Brown.....	Washington, D. C.
Jefferson Davis Carr.....	Clinton
Samuel James Childs, Jr.....	Hendersonville
Howard Russell Clapp.....	Sylva
William Holland Cutchin.....	Franklin, Va.
John Robert Dossenbach.....	Leonia, N. J.
John Ivey Eagles.....	Macclesfield
William Alfred Edwards.....	Danville, Va.
Frank Byron Gibson.....	Gibson
Isaac Coles Gregory.....	Greensboro
Dan Forney Holler.....	Union Mills
Joseph Norfleet Howard.....	Greensboro
Harvey Bradford Hunter.....	Charlotte
Charles James McCallum, Jr.....	Rowland
William Christopher Monroe.....	Council
William Riley Palmer.....	Clyde
James Harvey Payne.....	Albion, N. Y.
Frank Tedder Roberts.....	Mt. Gilead
Alfred Norwood Tatum, Jr.....	Raleigh
Frank Leon Woodard.....	Hayesville
Joseph Person Woodard.....	Kenly
John Lewis Yelverton.....	Stantonsburg

IN FORESTRY

William Jefferson Bridges, Jr.....	Charlotte
Locke Craig	Raleigh
James Warren Davis.....	Otto, McKeesport, Pa.
Paul Lawson Davis.....	Waynesville
William Gerald Davis.....	Maggie
Henry Delphin.....	Coney Island, N. Y.
John Maurice Deyton.....	Green Mt.
Owen Ray Douglass.....	Lake City, Fla.
Newton Perry Edge, Jr.....	Rocky Mount
Amil James Gerlock.....	Mt. Union, Pa.

James Henry Griffin.....	Asheville
John Bean Heltzel.....	Wardensville, W. Va.
Thomas Brantley Henderson, Jr.....	Williamsburg, Va.
Edward Lee Hurst.....	Hubert
Charles Morris Matthews.....	Albuquerque, N. Mex.
Joseph Angus Matthews.....	Southern Pines
Joseph Matys.....	Clifton, N. J.
Ben Harper Mayfield.....	Murphy
Frank Dupree Mayfield.....	Murphy
Herbert Olaf Roach.....	Lowell
Carroll Farnell Russell.....	Hubert
Louis Phillip Spitalnik.....	New York, N. Y.
Jack Edward Walsh.....	Beach Haven, N. J.
William Hardin Wheeler, Jr.....	Charlotte

IN LANDSCAPE ARCHITECTURE

Robert Marion Gibson, Jr.....	Asheville
John Henry Harris.....	Siler City

DEPARTMENT OF EDUCATION

Bachelor of Science

IN AGRICULTURAL EDUCATION

Lloyd Edward Auman.....	West End
Crayon Shelton Austin.....	Oakboro
John Henry Blackmon.....	Whiteville
Fred Blount.....	Roper
Charles Marion Butler.....	Clinton
Curtis Eugene Callihan.....	Whiteville
John Lee Carpenter.....	Lincolnton
Sam Davis Dewar.....	Fuquay Springs
Robert Jackson Drye.....	Oakboro
Onward James Gaylord.....	Jamesville
Virgil Lee Holloway.....	Sioux
Luther Calvin Liles, Jr.....	Wendell
Marvin Wayne Mangum.....	Monroe
Marvin Elsmer Nesbitt.....	Fletcher
Clarence Hatcher Pope.....	Rose Hill
Thomas Owen Varner.....	Whittier
Winfred Lee Williams.....	Marshville

IN HIGH SCHOOL TEACHING

Dominic Cara.....	Bellaire, Ohio
Henry Charles Cooke.....	Poughkeepsie, N. Y.
Philip Proctor Davis.....	Elizabeth City
Herbert Rockwell Denton.....	Rahway, N. J.
Effie Lillian Gillespie.....	Cary

Mamie Dorotheleen Hales.....	Raleigh
Nicholas Hamilton Hayden.....	Youngstown, Ohio
Thomas Ira Hines.....	Winston-Salem
Herbert Kirschner.....	Brooklyn, N. Y.
Frank Kubisa.....	W. Babylon, L. I., N. Y.
Joel Tyrus Lee.....	Dunn
Girdler Moore Matlack.....	Louisville, Ky.
Russell Cobb Nicholson.....	Raleigh
Margaret Jeter Owen.....	Raleigh
Wilbert James Peterson.....	Clinton
Walter Wagner Rabb.....	Lenoir
Antonio Alexander Regdon.....	Homestead, Pa.
Helen Monteith Scott.....	Greenwich, Conn.
Lois Sallie Silver.....	Raleigh
Gordon Winlock.....	Fort Bragg

IN INDUSTRIAL ARTS

Malcolm Theodore Howell.....	Greensboro
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SCHOOL OF ENGINEERING

Bachelor of Science

IN ARCHITECTURAL ENGINEERING

Harry Lee Cooper.....	Nashville
John Hugh MacKay.....	Clayton, N. J.

IN CERAMIC ENGINEERING

William Callum Bell.....	Greensboro
Andrew Reif Blackburn.....	Wilson
Robert Bost Knox, Jr.....	Newton
John Lawrence McLaughlin.....	Gloucester, Mass.
Soloman Graham Riggs, Jr.....	Raleigh

IN CHEMICAL ENGINEERING

Bardon Farrow Alligood.....	Washington
Luther Carlton Boyd.....	Henderson
James Bizzell Bundy.....	Fayetteville
William Edward Cheshire.....	Fayetteville
Wilson Edwin Crews.....	Hamlet
James Frank Curry.....	Lebanon, Tenn.
Carl Dawson Delamar.....	Durham
John Charles DeLane.....	Hickory
Dwight Womble Durham.....	Carthage
Winston Churchill Gardner.....	Tarboro
Frederick Cordon Gore.....	Weldon
John James Hassell, Jr.....	Roper

John Charles Hines.....	Rowland
Samuel Michael Hulak.....	Burgaw
Wilbert Fenrod Huntley.....	Monroe
James Milton Johnson.....	Pittsboro
Duncan MacRae Lamb.....	Baltimore, Md.
Carl Frederick Lange.....	Melrose Park, Pa.
Richard Hugh Lewis.....	Westport, Mass.
Clarence Broughton McSwain.....	Dallas
Francis Earl Mask.....	Greensboro
Robert Hall Morrison, Jr.....	Charlotte
Henry Arthur Nading, Jr.....	Winston-Salem
George Thomas Noulles.....	Wilson
Russell Lee Poteet.....	Bramwell, W. Va.
Lynn Evans Reighard, Jr.....	Asheville
Walter Lee Stinson.....	Goldston
James Rickert Teague.....	Hickory
Vincent Ashford Thorpe.....	Wilmington
Oliver Arrington Wallace, Jr.....	Wilmington
James Hubert Warren.....	Winston-Salem
Lewis Benton Webb.....	Mt. Airy
Ralph Henry Whitlark.....	Tarboro
Eugene Kelloway Williams.....	Wilmington

IN CIVIL ENGINEERING

George John Kurfels, Jr.....	Jersey City, N. J.
Nathaniel Flournoy Lovelace, Jr.....	Macclesfield

IN CIVIL ENGINEERING, CONSTRUCTION OPTION

Clarence Stephens Gale.....	Raleigh
Percy William Malpass.....	Delco
Frank Newton Phillips, Jr.....	Hamlet
Clyde M. Ramsay.....	Raleigh
Elwood Lee Reed.....	Wagram
Harold Milton Schrock.....	Somerset, Pa.
Robert Ivey Simkins.....	Goldsboro
Fritz Burton Wagon.....	Nunda, N. Y.
Edward Lawson Whitton.....	Charlotte

IN CIVIL ENGINEERING. HIGHWAY OPTION

Henry Fornero.....	Orange, N. J.
Alpheus Wray White, Jr.....	Raleigh

IN CIVIL ENGINEERING, SANITARY OPTION

James Ernest Barb, Jr.....	Hickory
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IN ELECTRICAL ENGINEERING

Vance Delma Almond.....	Ashley Heights
Julian Carl Avery, Jr.....	Selma
Charles Richard Browning.....	Raleigh
Henry Carson Byrd, Jr.....	Wilmington
James Edward Dickinson, Jr.....	Mooreville
Jennings Watson French.....	Raleigh
George Glen Getz.....	Winston-Salem
Hartwell Vick Scarborough, Jr.....	Macon
Jesse Darden Sewell.....	Murfreesboro
Thomas Thaddeus Short.....	Enfield
Gerald Fremont Simmons.....	Pawling, N. Y.
Edwin Samuel Spainhour, Jr.....	Winston-Salem
Cecil Exum Viverette.....	Sharpsburg
James Ruel Wetherington.....	Wendell

IN INDUSTRIAL ENGINEERING

Kenlon Harrison Brockwell.....	Raleigh
Morris Halperin.....	Baltimore, Md.
Roger Atkinson Norman.....	Bath
Teal Alexander Rivenbark, Jr.....	Watha
Philip Barton Key Scales, Jr.....	Raleigh

IN MECHANICAL ENGINEERING

Carl Richard Bayne.....	N. Plainfield, N. J.
Albert Norman Beardslee.....	North Wilkesboro
George Elmer Betts, Jr.....	Fayetteville
John Goodwin Gaw.....	Greensboro
Thomas Gordon Goad.....	Raleigh
Horace Morgan LeConey, Jr.....	Asheville
Wayland Everett Loomis.....	Bloomfield, Conn.
Harry Lee McDowell.....	Scotland Neck
Marvin Hester Meekins.....	Wanchese
Raymond Monroe, Jr.....	Laurinburg
Jesse Randolph Pinkham.....	Washington
George Romulus Ross, Jr.....	Raleigh
Roy Stewart Smith.....	Charlotte
William Aaron Speer.....	Boonville
Albert Louis Thomas.....	Hyde, Md.
Frederick Nathaniel Thompson.....	Wilson
Robert Ellsworth Vick.....	Sanford
Robert Lee Willis.....	Vale
Thomas Woodrow Wilson.....	Lawndale

IN MECHANICAL ENGINEERING, AERONAUTICAL OPTION

James Edgar Bishop.....	Greensboro
Robert Gordon Bruce Bourne.....	Haddonfield, N. J.
Frederick Leonard Connell.....	Mt. Holly
Theodore Ernst, Jr.....	Toms River, N. J.
John Richard Garrabrant.....	Wilmington
John Wesley Hunter.....	Wilmington
William Rosser Mann.....	Whitakers
Wilbur Louis Mayo.....	Greenville

SCHOOL OF SCIENCE AND BUSINESS

Bachelor of Science

IN BIOLOGY

Ernest Vincent Crist, Jr.....	Timberville, Va.
Harry Eugene Mathews, Jr.....	Richmond, Va.
George Edward Murphy.....	Springfield, Mass.
Warren Vernon Tarkenton.....	Norfolk, Va.
Mrs. Myrtha Mangum Wilson.....	Raleigh

IN BUSINESS ADMINISTRATION

Harry Theodore Chomin.....	Dunmore, Pa.
Lloyd Brannon Owens.....	Asheville

IN CHEMISTRY

Stanley Anzelm Chudzik.....	Clifton, N. J.
Charles Roy Stinnette, Jr.....	Asheville
Joseph Ernest Yates.....	Stony Point

IN INDUSTRIAL CHEMISTRY

Jesse Robert Womble.....	Rocky Mount
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IN INDUSTRIAL MANAGEMENT

Thomas Tillett Allison, Jr.....	Charlotte
William Guilford Andrews.....	Bethel
George Merrill Ashby, Jr.....	Raleigh
Paul Paisley Brown, Jr.....	Raleigh
William Lewis Bynum.....	Raleigh
Kirkland Woodruff Clark.....	Wilmington
Mario Comolli.....	Elberton, Ga.
David Ray Daniel.....	Salisbury
Richard Tyler Edmonson.....	Washington
Frederick Herbert Fisher.....	Raleigh
Raymond Whitard Jordan.....	Milton
Jerry Lardieri.....	Newark, N. J.

Leonard Dorsey Nelson.....	Washington
Joseph Francis Ryneska.....	Amesbury, Mass.
Charles Ashley Ryther.....	Carthage, N. Y.
Fiore Anthony Sarrocco.....	Newark, N. J.
Alfred Jones Templeton, Jr.....	Raleigh

SCHOOL OF TEXTILES

Bachelor of Science

IN TEXTILE CHEMISTRY AND DYEING

Lloyd Newton Brown.....	Charlotte
Allen Benjamin Elam.....	High Point
John Arthur Feather, Jr.....	New Bedford, Mass.
James William Furr.....	High Point
Warren Richard Garrett.....	Rockingham
Eugene Stedman Horney.....	Greensboro
Edward James Jaskwich.....	Kenosha, Wis.
John Earle Johnson.....	New Bedford, Mass.
John William Ogletree.....	Roanoke Rapids
Edward James Phibbs, Jr.....	High Point
Richard Earle Rettew.....	Altamahaw
Jack Morris Schandler.....	Asheville
Robert Henry Teeter.....	Charlotte
Thomas Sorrelle Waller.....	Raleigh
Charles Caldwell Ware.....	Wilson

IN TEXTILE MANAGEMENT

James Wesley Barnes.....	Wilson
John Wesley Cockman.....	Rockingham
Alfred Jackson Fox.....	Troutman
Edwin John Heilman III.....	Phoenixville, Pa.

IN TEXTILE MANUFACTURING

John S. Allen.....	North Wilkesboro
William Coke Ariail, Jr.....	Charlotte
Taylor Everette Barrow, Jr.....	Farmville
Edward Woodston Blackwood.....	Swepsonville
Charles Edgar Boger, Jr.....	Concord
William Mitchell Carlisle.....	Rahway, N. J.
William Buffkin Chalk.....	Morehead City
Neill McLean Dalrymple.....	Jonesboro
Marshall Dilling, Jr.....	Gastonia
Albert Montgomery Guillet, Jr.....	Charlotte
Clarkston Edwards Johnson.....	Liberty
Francis Snow Martin.....	Henderson
Henry Moore Middleton, Jr.....	Warsaw
Thomas Robert Moir.....	Walkertown
John Orr Neikirk.....	Charlotte

Marshall Brandon Payne.....	Kannapolis
Horace Greely Perry, Jr.....	Wallace
James Clyde Stepp.....	Hickory
Elias Hester Warren.....	Kernersville
Henry Lawler Wilder, Jr.....	Pampa, Texas
Thad Gold Yelton.....	Shelby

IN WEAVING AND DESIGNING

John Allen Boland, Jr.....	Burlington
Edward Hal Curtis.....	Climax
Richard Wright Dunn.....	Rocky Mount
Peter Ihrie, Jr.....	Rock Hill, S. C.
James McKimmon.....	Raleigh
Ralph Hamilton Martin.....	Apex
Wingate Howard Underhill.....	Wendell

ADVANCED DEGREES

Master of Science

IN ANIMAL HUSBANDRY

Howard Hilary Boling.....	Randleman
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IN CHEMICAL ENGINEERING

Worth Hurley Franklin.....	Raleigh
James Marion Poyner.....	Raleigh
Robert Edward Lee Wheless.....	Warsaw

IN CHEMISTRY

Henry Douglas Matheson.....	Jackson Springs
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IN FORESTRY

Clarke Mathewson.....	Raleigh
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IN PLANT PATHOLOGY

Kendall Jones Shaw.....	Durham
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IN ENTOMOLOGY

Donald Fred Ashton.....	Carnation, Wash.
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PROFESSIONAL DEGREE

CHEMICAL ENGINEER

Percy Joe Whitesell.....	Covington, Va.
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MEDALS AND PRIZES—COMMENCEMENT, 1937

NATIONAL ASSOCIATION OF TEXTILE MANUFACTURERS' MEDAL

J. A. Boland, Senior in Textiles, Burlington, N. C.

ASSOCIATED GENERAL CONTRACTORS' AWARD

Clarence S. Gale, Senior in Construction Engineering, Raleigh, N. C.

ELDER P. D. GOLD CITIZENSHIP MEDAL

Jack Gaw, Senior in Mechanical Engineering, Greensboro, N. C.

ALUMNI ATHLETIC TROPHY

N. M. Dalrymple, Senior in Textiles, Jonesboro, N. C.

SENIOR ORATOR'S MEDAL (AWARDED BY STATE COLLEGE)

Miss Helen Monteith Scott, Senior in High School Teaching, Greenwich, Conn.

DELTA SIGMA PI KEY

R. T. Edmonson, Senior in Industrial Management, Washington, N. C.

STATE COLLEGE WOMAN'S CLUB AWARD

Miss Mamie Dorotheleen Hales, Senior in High School Teaching, Raleigh, N. C.

GOETHE MUSEUM AWARD IN GERMAN

J. Carlyle Hackney, Teaching Fellow in Chemistry, Greensboro, N. C.

INTERSOCIETY DECLARER'S MEDAL (AWARDED BY STATE COLLEGE)

Horace McSwain, Sophomore in Textiles, Shelby, N. C.

INTERSOCIETY ORATOR'S MEDAL (AWARDED BY STATE COLLEGE)

Samuel B. Moss, Junior in Chemistry, Albemarle, N. C.

SOUTH ATLANTIC AND NORTH CAROLINA INTERCOLLEGIATE FORENSIC ASSOCIATION CUP (NOW IN PERMANENT POSSESSION OF STATE COLLEGE)

Harold Zekaria, Freshman in Industrial Arts, New York City

N. C. I. F. A. CHAMPIONSHIP MEDAL IN EXTEMPORANEOUS SPEAKING

Samuel B. Moss, Junior in Chemistry, Albemarle, N. C.

APPALACHIAN MOUNTAIN CHAMPIONSHIP IN IMPROMPTU SPEAKING

Samuel B. Moss, Junior in Chemistry, Albemarle, N. C.

INTER-REGIONAL PI KAPPA DELTA MEDALS IN ORATORY AND EXTEMPORANEOUS SPEAKING

Harold Zekaria, Freshman in Industrial Arts, New York City

N. C. I. F. A. CHAMPIONSHIP MEDALS IN ORATORY AND AFTER-DINNER SPEAKING

Harold Zekaria, Freshman in Industrial Arts, New York City

DIXIE IMPROMPTU SPEAKING CHAMPIONSHIP MEDAL

Howard Bergman, Freshman in Textiles, Brooklyn, New York

MEDALS AND PRIZES—SCHOLARSHIP DAY, 1937

PHI KAPPA PHI SCHOLARSHIP MEDALS

Senior: J. A. Boland, Textiles, Burlington, N. C.

Junior: H. T. Boling, Animal Husbandry, Randleman, N. C.

Sophomore: David Colvin, Chemical Engineering, Raleigh, N. C.

J. C. STEELE SCHOLARSHIP CUP

Arthur Dammann, Sophomore in Ceramic Engineering, Amityville, N. Y.

MOLAND-DRYSDALE SCHOLARSHIP CUP

R. P. McCabe, Freshman in Ceramic Engineering, Raleigh, N. C.

ALPHA ZETA SCHOLARSHIP CUP

P. S. Thompson, Sophomore in Agricultural Economics, Cleveland, N. C.

SIGMA TAU SIGMA (TEXTILE) AWARD

J. A. Boland, Senior in Textiles, Burlington, N. C.

TAU BETA PI AWARDS

David Colvin, Sophomore in Chemical Engineering, Raleigh, N. C.

J. C. Aldrich, Freshman in Civil Engineering, Binghamton, N. Y.

FRATERNITY SCHOLARSHIP CUP

Kappa Alpha

SIGMA PI ALPHA LANGUAGES AWARD

Gordon Winlock, Senior in High School Teaching, Fort Bragg, N. C.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS AWARD

David Colvin, Sophomore in Chemical Engineering, Raleigh, N. C.

MU BETA PSI

Robert G. B. Bourne, Senior in Mechanical Engineering, Aeronautical Option,
Haddonfield, N. J.

HONOR STUDENTS — COMMENCEMENT, 1937

HIGH HONORS

Albert Norman Beardslee
John Allen Boland, Jr.
John Maurice Deyton
Marshall Dilling, Jr.
Dwight Womble Durham
Amil James Gerlock

Isaac Coles Gregory
Mamie Dorotheleen Hales
Carl Frederick Lange
Wayland Everett Loomis
William Aaron Speer
William Hardin Wheeler, Jr.

HONORS

William Callum Bell
George Elmer Betts, Jr.
Andrew Reif Blackburn
Fred Blount
Robert Gordon Bruce Bourne
Frank Hamilton Brown, Jr.
Lloyd Newton Brown
Henry Carson Byrd, Jr.
Frederick Leonard Connell
Henry Charles Cooke
Locke Craig
James Frank Curry
William Holland Cutchin
James Warren Davis
Carl Dawson Delamar
John Charles DeLane
James Edward Dickinson, Jr.
Robert Jackson Drye
Richard Tyler Edmonson
James William Furr
Clarence Stephens Gale
William Daniel Gash
John Goodwin Gaw
John Henry Harris
Eugene Stedman Horney
Malcolm Theodore Howell
Samuel Michael Hulak
Edward James Jaskwhich
Herbert Kirschner

Marvin Wayne Mangum
Charles Morris Matthews
Ben Harper Mayfield
Frank Dupree Mayfield
Wilbur Louis Mayo
William Christopher Monroe
Robert Hall Morrison
John William Ogletree
Lloyd Brannon Owens
William Riley Palmer
Marshall Brandon Payne
Jesse Randolph Pinkham
Clarence Hatcher Pope
Russell Lee Poteet
Richard Earle Rettew
Hartwell Vick Scarborough, Jr.
Harold Milton Schrock
Lois Sallie Silver
Gerald Fremont Simmons
James Clyde Stepp
Charles Roy Stinnette, Jr.
Alfred Norwood Tatum, Jr.
Thomas Owen Varner
Lewis Benton Webb
Winfred Lee Williams
Thomas Woodrow Wilson
Frank Leon Woodard
Joseph Person Woodard

DEGREES CONFERRED — SEPTEMBER, 1937

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Bachelor of Science

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John Stephen Hollamon.....	Farmville
Erwin Eugene Isley.....	Burlington
Marion Cherigny Palmer, Jr.....	Franklinton
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Thomas Woodrow Yarborough.....	Raleigh

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Albert Frederick Hein.....	New York, N. Y.
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ARGICULTURAL EDUCATION

Charlie J. Thomas.....	Rose Hill
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MECHANICAL ENGINEERING

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Master of Science

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Timothy Pendleton McCullough, Jr.....	Vardaman, Miss.
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RURAL SOCIOLOGY

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Willie Marguerite York.....	Cary

SECOND SUMMER SESSION

Bachelor of Science

HIGH SCHOOL TEACHING

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Thomas Allen Windley.....	Bridgeton

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1937-1938

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RALEIGH

FOR THE SCHOOL YEAR 1937-1938

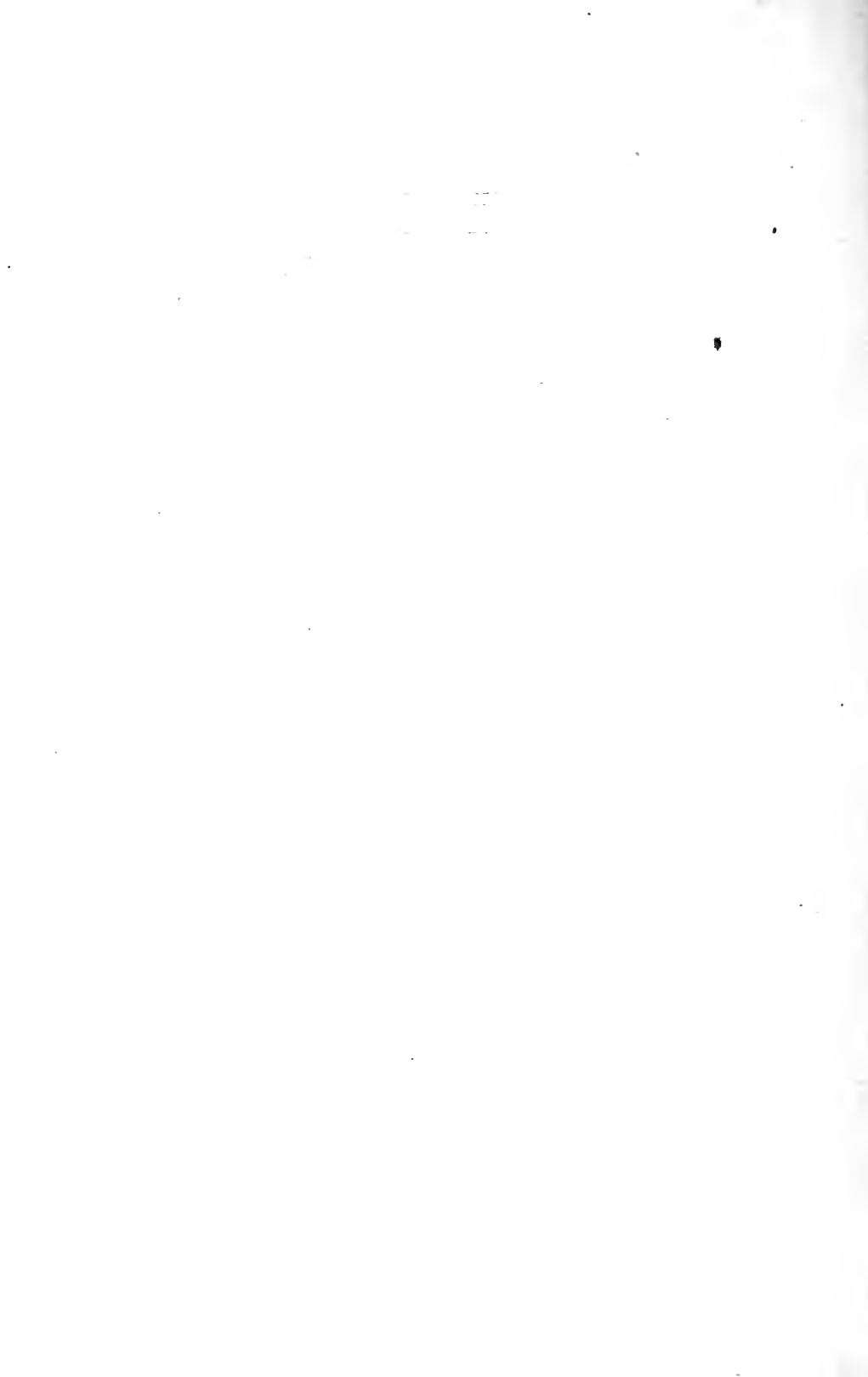
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1937-1938

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Bruinooge, P., Jr.	Jr. Tex. Mgt.	2004 Hillsboro St.	Hasbrouck Hgts., N. J.
Bryan, W. J.	Fr. Ag. Ed.	4 Maiden Lane.	Garner, N. C.
Buchanan, E. T.	So. Con. E.	138 1911, Box 3738.	Sanford, N. C.
Buckingham, D. Y.	Fr. Tex.	2004 Hillsboro St.	Jewett City, Conn.
Bulla, W. W.	So. Ch. E.	206 1911, Box 3746.	Asheboro, N. C.
Bullard, P. D.	So. Ch. E.	2402 Hillsboro St.	Roseboro, N. C.
Bullock, J. B.	Jr. E. E.	128 1911, Box 3728.	Henderson, N. C.
Bundy, S. A.	Fr. Tex.	312 South, Box 3576.	Jamestown, N. C.
Bunn, R. M.	So. Ag. Ed.	625 Hillsboro St.	Rocky Mount, N. C.
Burcham, J. R.	Jr. Tex.	118 Watauga, Box 3018.	Elkin, N. C.
Burgess, J. F.	Fr. Ch. E.	105 South, Box 3505.	Pleasant Garden, N. C.
Burgess, L. L.	So. For.	14 Glenwood Ave.	Graham, N. C.
Burke, W. H.	Fr. Ag.	Raleigh, Box 632.	Raleigh, N. C.
Burnham, J. M., III	So. Cer. E.	103 Chamberlain St.	Charlotte, N. C.
Burrage, R. L., Jr.	Fr. Ag.	301 South, Box 3565.	Concord, N. C.
Burruss, C. T.	Fr. For.	118 Ridgecrest St.	Raleigh, N. C.
Burt, R. L.	So. M. E.	125 N. Salisbury St.	Raleigh, N. C.
Burton, W. H., Jr.	Sr. Tex.	1301 Hillsboro St.	Mebane, N. C.
Butler, A. E.	Jr. For.	531 N. East St.	Raleigh, N. C.
Butler, E. G.	Jr. Ag. Ec.	220 Cox Ave., Box 5471.	Clinton, N. C.
Butler, H. B.	Jr. Ag. Ec.	2702 Hillsboro St.	Clinton, N. C.
Butler, S. A.	So. Ag. E.	220 Cox Ave.	Clinton, N. C.
Butler, W. E.	Sr. Ag.	3 Maiden Lane.	Vanceboro, N. C.
Butler, W. S.	Sr. Ag. Ed.	216 Forest Rd.	Clinton, N. C.
Butterfield, R.	Jr. Ch. E.	2209½ Hope St.	Hawthorne, N. J.
Buys, W. O.	Jr. C. E.	230 E. Morgan St.	Washington, N. C.
Byerly, O. V.	Fr. Tex.	308 South, Box 3572.	Lexington, N. C.
Byrd, E. W.	Jr. Ag.	2208 Hope St.	Whiteville, N. C.
Byrd, H. C.	So. Tex.	2405 Clark Ave.	Erwin, N. C.
Cabaniss, C. C.	Fr. Tex.	108 5th, Box 3208.	Shelby, N. C.
Cagle, R. C.	Fr. E. E.	230 South, Box 3562.	Rockingham, N. C.
Cain, R. L.	So. For.	106 7th, Box 3306.	Fayetteville, N. C.
Cain, T. H.	Fr. Tex.	715 Gaston St.	Raleigh, N. C.
Caldwell, O. T.	Fr. E. E.	331 7th, Box 3397.	Winston-Salem, N. C.
Calhoun, M. G.	So. E. E.	240 1911, Box 3780.	Clio, S. C.
Call, J. W.	Fr. Ch. E.	418 St. Mary's St.	Wilson, N. C.
Callis, B.	Fr. Ag.	14 South, Box 3610.	Willow Springs, N. C.
Callis, R. S.	Fr. Ch. E.	3011 Hillsboro St.	Ahoskie, N. C.
Cameron, A. C.	Sr. Tex.	2455 Clark Ave.	Olivia, N. C.
Cameron, D. F.	Fr. Ag.	314 South, Box 3578.	Pine View, N. C.
Campbell, J. H.	Sr. Ag. Ed.	114 Watauga, Box 3014.	Taylorsville, N. C.
Campbell, J. S.	Sr. For.	106 Watauga, Box 3006.	Franklin, Va.
Campbell, M. R.	Fr. M. E.	203 4th, Box 3121.	Dunn, N. C.
Campbell, R. A.	Jr. E. E.	213 Woodburn Rd.	Fremont, N. C.
Campbell, W. A.	Sr. For.	1108 Glenwood Ave.	Southport, N. C.
Campbell, W. N.	Fr. Ind. E.	209 Ashe Ave.	Raleigh, N. C.
Cannon, C. W.	Fr. Tex.	315 South, Box 3589.	Ayden, N. C.
Cannon, E.	An. Hus.	7 Polk, Box 5666.	Ernul, N. C.
Cannon, H. L.	Jr. Tex.	204 7th, Box 3336.	Roanoke Rapids, N. C.
Cannon, J. M.	So. Ch. E.	1720 Hillsboro St.	New Bern, N. C.
Carawon, B. E.	Fr. Ag. E.	307 7th, Box 3373.	Vanceboro, N. C.
Carey, J. P.	Fr. Arch. E.	320 7th, Box 3386.	Kinston, N. C.
Carey, R. E.	Fr. For.		
Carpenter, C. W.	Fr. E. E.	208 South, Box 3540.	Belwood, N. C.
Carpenter, M. N., Jr.	Fr. Tex. Mfg.	221 1911, Box 3761.	Margarettsville, N. C.
Carraway, B. L.	Fr. Ag. Ed.	220 South, Box 3552.	Farmville, N. C.
Carraway, J. B.	So. Con. E.	218 Pace St.	Raleigh, N. C.
Carson, G. C.	Fr. Ag. Ed.	303 Hillcrest Rd.	Democrat, N. C.
Carson, H. P.	Fr. Ag.	329 7th, Box 3395.	Stokes, N. C.
Carter, R. W.	Fr. Ag. Ec.	10 South, Box 3606.	

NORTH CAROLINA STATE COLLEGE

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Carter, W. E.	Fr. Cer. E.	506 Cleveland St.	Raleigh, N. C.
Carter, Wilburn L.	Fr. Ag.	State College Station, Box 5162.	Raleigh, N. C.
Carter, William L.	Jr. Tex. C. & D.	Gymnasium, Box 5392	Franklinville, N. C.
Cartwright, L. W., Jr.	So. M. E.	1022 Hillsboro St.	Baltimore, Md.
Carver, I. L.	Fr. Ag.	112 Cox Ave.	Durham, N. C.
Cates, T. W.	Jr. Tex. Mfg.	c/o Dr. L. C. Liles, State Hospital.	Wendell, N. C.
Cathey, J. T.	Fr. For.	Gymnasium, Gen. Del.	Waynesville, N. C.
Cathey, R. H.	Fr. Tex. C. & D.	Gymnasium, Box 5281	Charlotte, N. C.
Catlin, J. T., III	Sr. Tex.	21 Enterprise St.	Danville, Va.
Caton, M. O.	Jr. Ch. E.	218 Watauga, Box 3036	Ayden, N. C.
Caudill, J. E.	Jr. Ind. Mgt.	308 1911, Box 3788	N. Wilkesboro, N. C.
Cauthen, R. B.	Sr. Arch. E.	523 N. Person St.	Raleigh, N. C.
Cawthon, E. H.	Fr. Tex.	305 6th, Box 3265	Salisbury, N. C.
Chace, K. V.	Jr. Ch. E.	339 1911, Box 3819	New Bedford, Mass.
Chaconas, G. P.	So. For.	225 Furches St.	Washington, D. C.
Chaffee, N. L.	Fr. M. E.	307 6th, Box 3267	Morganton, N. C.
Chambers, W. L.	Sr. Ind. Mgt.	2302 Hillsboro St.	Winston-Salem, N. C.
Chamblee, G. V.	Fr. For.	216 South, Box 3548	Zebulon, N. C.
Chandler, F. S.	Sr. C. E.	1408 Hillsboro St.	Barber, N. C.
Chapman, J. W.	Jr. Tex. Mfg.	208 1911, Box 3748	Dover, N. C.
Chapman, W. H.	Grad. Ag. Sp.		
Chapman, W. J.	Sr. Ind. E.	2513 Clark Ave.	Walsenburg, Colo.
Chappell, M. J.	Sr. Ag. Ed.	College Court Apt. 1.	Edenton, N. C.
Chase, C. C.	Sr. Tex. Mfg.	2705 Van Dyke	Salisbury, N. C.
Chatham, R. M., Jr.	Fr. Tex.	1301 Hillsboro St.	Raleigh, N. C.
Cheeves, C. T., II	Fr. M. E.	120 South, Box 3520	Zebulon, N. C.
Cherry, J. W.	So. For.	c/o M. C. Grant, Box 5243	Hayesville, N. C.
Cheslock, C. J.	Sr. For.	2008 Hillsboro St.	Orbisonia, Pa.
Chesnutt, M. P.	Fr. Ag. Ed.	20 Bagwell Ave.	Turkey, N. C.
Chiemiego, A. A., Jr.	Sr. H. S. T.	314 Watauga, Box 5254	Burlington, N. J.
Choate, W. R.	So. Ag.	312 6th, Box 3272	Sparta, N. C.
Clancy, E. I.	Sr. Con. E.	1408 Hillsboro St.	Asheville, N. C.
Clapp, B. S.	Sr. Ind. Arts.	Gymnasium, Box 5392	Siler City, N. C.
Clark, C. C.	So. Ag.	3 Maiden Lane	Durham, N. C.
Clark, C. E.	Sr. Tex. Mgt.	21 Enterprise St.	Danville, Va.
Clark, D. M.	Fr. For.	108 South, Box 3508	Tarboro, N. C.
Clark, N. N.	Jr. Con. E.	125 Woodburn Rd.	Hull, Mass.
Clark, R. S.	Jr. Land. Arch.	112 1911, Box 3712	Winston-Salem, N. C.
Clark, W. M., Jr.	Fr. Tex. Mgt.	205 5th, Box 2217	Charlotte, N. C.
Clarkson, B. G.	Fr. Tex.	202 5th, Box 3514	Morganton, N. C.
Clegg, R. E.	Grad. Tex. C. & D.		
Clements, F. M.	Fr. Tex. C. & D.	333 7th, Box 3399	Greensboro, N. C.
Cline, D. M., Jr.	Fr. Ch. E.	219 South, Box 3551	Granite Falls, N. C.
Cline, W. E.	Fr. Ch. E.	204 4th, Box 3122	Charleston, W. Va.
Coates, L. W.	Jr. Ag. Ec.	2406 Hillsboro St.	Smithfield, N. C.
Coates, R. C.	So. Ag. E.	228 1911, Box 3768	Smithfield, N. C.
Coble, E. L.	Sr. Arch. E.	224 N. Person St.	Raleigh, N. C.
Cochran, R. B.	Fr. Aero. E.	110 6th, Box 3246	Rocky Mount, N. C.
Cohan, E. A.	Jr. Biol.	116 Groveland Ave.	Brooklyn, N. Y.
Cohen, I. H.	So. Ag.	116 Groveland Ave.	Raleigh, N. C.
Cole, M. W., Jr.	So. E. E.	210 Ashe Ave.	Butters, N. C.
Cole, W. W.	Fr. Arch. E.	12 South, Box 3608	Elizabethtown, N. C.
Coleman, J. M., Jr.	Sr. Con. E.	1800 St. Mary's St.	Raleigh, N. C.
Coleman, Robert, Jr.	Jr. Ch. E.	1922 Hillsboro St.	Birmingham, Ala.
Coleman, R. F., Jr.	So. C. E.	2412 Everett Ave.	Wilmington, N. C.
Collins, M., Jr.	So. Con. E.	Cary	Cary, N. C.
Colvin, C. M.	Fr. E. E.	308 6th, Box 3268	Davidson, N. C.
Colvin, D.	Jr. Ch. E.	705 E. Franklin St.	Raleigh, N. C.
Colwell, W. L., Jr.	Sr. For.	320 1911, Box 3800	Washington, D. C.
Conner, L. G.	So. M. E.	301 College Power Plant, Box 5241	Andalusia, Ala.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Conner, P. C.	Sr. For.	123 7th, Box 3323	Buffalo Ridge, Va.
Conrad, C. G.	Sr. Ind. Mgt.	202 7th, Box 5282	Greensboro, N. C.
Conrad, E. B.	Fr. Ch. E.	120 7th, Box 3320	Charlotte, N. C.
Cook, Charles	Fr. Tex.	103 Chamberlain St.	Philadelphia, Pa.
Cook, Charles Calvin	So. Ch. E.	229 7th, Box 3361	Asheville, N. C.
Cooke, H. L.	So. Ag.	217 1911, Box 3757	Littleton, N. C.
Cooke, W. F.	Fr. Con. E.	309 6th, Box 3269	Sanford, N. C.
Coon, E. H., Jr.	So. C. E.	129 7th, Box 3329	Watertown, Conn.
Cooper, W. G.	Fr. Ch. E.	123 Chamberlain St.	Pleasant Garden, N. C.
Cope, J. H.	Fr. For.	226 South, Box 3558	Cope, S. C.
Copley, L. L.	So. Ag.	112 Cox Ave.	Rougemont, N. C.
Corbett, D. N., Jr.	Fr. Ag.	303 4th, Box 3129	Lake Wales, Fla.
Correll, S. M.	So. An. Hus.	State College Dairy, House. Box 5127	Cleveland, N. C.
Correll, W. C.	So. M. E.	2316 Hillsboro St.	Albemarle, N. C.
Council, J. B.	Fr. Tex.	215 Park Ave.	Hallsboro, N. C.
Coward, E. G.	Tex.		Ayden, N. C.
Coward, W. B.	So. Tex. Mgt.	117 Park Ave.	Rocky Mount, N. C.
Cox, D. F.	Fr. Cer. E.	Boylan Apt. C. 101	Raleigh, N. C.
Cox, G. C., Jr.	Fr. Ch. E.	1408 Hillsboro St.	Greensboro, N. C.
Cox, J. W.	Jr. Ind. E.	212 1911, Box 3752	Mann's Harbor, N. C.
Coxe, J. S., Jr.	So. Ind. E.	1711 Scales St.	Raleigh, N. C.
Crabtree, H. J.	Fr. Ag.	1541 Caswell St.	Bahama, N. C.
Craig, R. J.	Fr. Ind. E.	301 South, Box 3565	Wilmington, N. C.
Crane, L. R.	Sr. E. E.	Rt. 1, Raleigh	Raleigh, N. C.
Craven, K. R.	So. Tex. W. & D.	222 Park Ave.	Charlotte, N. C.
Craven, C. R., Jr.	Fr. E. E.	215 South, Box 3547	Winston-Salem, N. C.
Craver, W. R.	So. Ag. Ed.	2402 Hillsboro St.	Lexington, N. C.
Crawford, B. B.	Fr. M. E.	21 South, Box 3617	Chadbourn, N. C.
Crawford, M. H.	Jr. M. E.	312 1911, Box 3792	Wilson, N. C.
Crawford, M. L.	So. Tex.	21 Enterprise	Spartanburg, S. C.
Crawley, W. P.	Sr. Tex. Mfg.	206 Watauga, Box 3024	Littleton, N. C.
Creech, G. W.	Fr. Tex.	210 South, Box 3542	Concord, N. C.
Cress, W. C.	Jr. Cer. E.	203 Watauga, Box 3021	Mt. Ulla, N. C.
Croll, G. H.	So. Ag.	10 Enterprise St.	Ridgewood, N. J.
Cromartie, P. McK.	Fr. For.	301 Park Ave.	Fayetteville, N. C.
Crosland, R. B., Jr.	Sr. Tex. Mfg.	2513 Clark Ave.	Charlotte, N. C.
Crouch, F. F., Jr.	Fr. Ch. E.	501 E. Franklin St.	Raleigh, N. C.
Crumpton, R. B.	Fr. E. E.	5 South, Box 3601	Roxboro, N. C.
Culberson, G. R.	Grad. Tex.		
Cullen, P. B.	Sr. Tex.	334 1911, Box 3814	Fall River, Mass.
Cullins, A. C.	Fr. Ch. E.	2804 Hillsboro St.	Goldsboro, N. C.
Culver, C. E.	Fr. E. E.	301 7th, Box	Philadelphia, Pa.
Cunningham, F. C.	So. Ind. E.	1615 Fairview Rd.	Raleigh, N. C.
Curran, A. L.	So. Ag. Ed.	128 7th, Box 3328	Bittinger, Md.
Currie, D. S., Jr.	Fr. M. E.	116 South, Box 3516	Raeford, N. C.
Cyrus, H. N.	Sr. E. E.	239 1911, Box 3779	Rocky Mount, N. C.
Dale, C. K.	Jr. For.	2412 Everett Ave.	Portsmouth, Va.
Dalton, M. M.	So. M. E.	206 1911, Box 3746	Durham, N. C.
Daly, O. A.	Sr. Con. E.	119 1911, Box 3719	Raleigh, N. C.
Dammann, A.	Sr. Cer. Eng.	309 South, Box 3573	Amityville, N. Y.
Dark, N. J.	Fr. Arch. E.	201 4th, Box 3119	Siler City, N. C.
Darsie, J. C.	Grad. Ag. Biol.	110 E. Peace St.	Greensboro, N. C.
Daughtry, J. M.	So. For.	204 7th, Box 3336	Roanoke Rapids, N. C.
Davenport, J. H.	Fr. Ag.	303 5th, Box 3227	Creswell, N. C.
Davenport, W. H.	So. Ag. Ec.	215 Park Ave.	Kinston, N. C.
Davidson, E. P.	So. E. E.	2004 Hillsboro St.	Murphy, N. C.
Davidson, F. M.	Sr. Tex.	310 1911, Box 3790	Gibsonville, N. C.
Davidson, J. B.	Sr. Ag. Spec.	806 Cowper Dr.	Swannanoa, N. C.
Davidson, M. E.	So. Ind. E.	409 Calvin Rd.	Raleigh, N. C.
Davidson, W. A., Jr.	Fr. Ch. E.	131 South, Box 3531	Plymouth, N. C.
Davis, A. E.	Jr. Ch. E.	131 1911, Box 3731	Burlington, N. C.
Davis, A. J.	So. Me. E.	123 Brooks Ave.	Charlotte, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Davis, C. C., Jr.	So. Arch. E.	210 7th, Box 3342	Wilmington, N. C.
Davis, G. W.	So. Ag.	2729 Everett Ave.	Arcola, N. C.
Davis, H. G.	So. An. Hus.	2220 Hillsboro St.	Red Springs, N. C.
Davis, J. E., Jr.	So. Ag. Ed.	8 Ferndell Lane.	Shelby, N. C.
Davis, J. P., Jr.	Sr. Ag. Ec.	202 1911, Box 3742	Salisbury, N. C.
Davis, J. L.	Fr. For.	116 Groveland Ave.	Brooklyn, N. Y.
Davis, J. T.	Fr. For.	211 7th, Box 3343	Yadkinville, N. C.
Davis, M. W., III	So. Tex.	116 Groveland Ave.	Charlotte, N. C.
Davis, N. C.	Sr. Ind. Mgt.	1922 Hillsboro St.	Elizabeth City, N. C.
Davis, P. C.	Fr. Ag. Ed.	2804 Hillsboro, N. C.	East Bend, N. C.
Davis, Richard E.	So. For.	2316 Hillsboro St.	Greensboro, N. C.
Davis, Roland E.	Fr. C. E.	104 6th, Box 3240	Middlesex, N. C.
Davis, Richard L.	Sr. Ch. E.	1301 Hillsboro St.	Charlotte, N. C.
Dawson, H. H.	Fr. Ag. Ed.	123 South, Box 3523	Dunn, N. C.
Dawson, R. J.	Fr. Ag.	205 6th, Box 3253	Kinston, N. C.
Deboy, W. H.	Sr. Ch. E.	407 N. Person St.	Raleigh, N. C.
Decker, F. A., Jr.	So. Tex.	1806 Hillsboro St.	Charlotte, N. C.
Dees, E. A.	Jr. Tex. Mgt.	340 1911, Box 3820	Concord, N. C.
Dees, Frances (Miss)	So. Land. Arch.	201 Chamberlain St.	Greensboro, N. C.
Del Pico, R.	Jr. Ind. E.	201 Park Ave.	Havana, Cuba
De Marcey, C. M., Jr.	Sr. Tex. C. & D.	214 Park Ave.	Savannah, Ga.
Derbyshire, S. W.	So. Cer. E.	1408 Hillsboro St.	Raleigh, N. C.
De Vane, J. L.	So. Ag.	117 Park Ave.	Tomahawk, N. C.
Dewey, C.	Fr. Ch. E.	208 5th, Box 3220	Goldsboro, N. C.
Dewey, G. B.	So. Tex. Mgt.	3 Gymnasium, Box 5402	Pulaski, Va.
Diaz, R.	Jr. M. E.	6 N. Bloodworth	San Juan, P. R.
Dickerson, E. N.	Fr. Ag.	8 Maiden Lane	Kinston, N. C.
Dickinson, W. A., Jr.	Fr. M. E.	308 4th, Box 3134	Fayetteville, N. C.
Dillard, W. B.	So. Con. E.		
Dillingham, M. McM.	Sr. For.	1809 Sunset Dr.	Barnardsville, N. C.
Dillingham, R. E.	Fr. An. Hus.	303 Hillcrest	Barnardsville, N. C.
Dillingham, W. D.	Fr. Ag.	303 Hillcrest Rd.	Asheville, N. C.
Dixon, D. C.	Sr. For.	125 1911, Box 3725	Belle Mead, N. J.
Dixon, D. S.	Fr. Ag.	307 4th, Box 3133	Kinston, N. C.
Dixon, D. V.	Fr. C. E.	12 Enterprise St.	Kinston, N. C.
Dixon, E. C.	Fr. Ch. E.	306 South, Box 3570	Crewe, Va.
Dixon, G. T.	Fr. E. E.	203 6th, Box 3251	Elm City, N. C.
Dixon, R. E.	Sr. Tex.	201 Watauga, Box 3019	Winston-Salem, N. C.
Dixon, W. L., Jr.	Sr. Tex. C. & D.	1720 Hillsboro St.	Charlotte, N. C.
Di Yeso, A. A.	So. Ind. Arts.	230 7th, Box 5314	White Plains, N. Y.
Doares, J. McC.	Fr. Ind. E.	6 Enterprise	Lumberton, N. C.
Dobson, J. A.	So. Ag.	301 1911, Box 3781	Statesville, N. C.
Dobson, S. H.	Sr. Ag.	232 1911, Box 3772	Statesville, N. C.
Donnell, R. H.	Fr. E. E.	105 6th, Box 3241	Greensboro, N. C.
Donovan, D. W.	Fr. Ch. E.	132 1911, Box 3732	Atlanta, Ga.
Dotger, F. W., Jr.	So. Ag.	315 Watauga	Charlotte, N. C.
Doub, A., Jr.	Jr. Ag. Ec.	3016 White Oak Rd.	Raleigh, N. C.
Dover, J. T., Jr.	So. Tex. Mgt.	2004 Hillsboro St.	Shelby, N. C.
Doyle, M.	Fr. Aero. Eng.	314 7th, Box 3380	Lakewood, N. J.
Doyle, Mary E. (Miss)	Grad. Ru. Soc.		
Dozier, J. E.	So. Ind. E.	2015 Glenwood Ave.	Raleigh, N. C.
Driver, M. McK.	So. Aero. E.	109 Watauga, Box 3027	Dunn, N. C.
Drum, J. N.	Fr. M. E.	119 South, Box 3519	Conover, N. C.
Dry, C. L.	So. Ag. Ed.	222 Park Ave.	Richfield, N. C.
Duñ, W. P., Jr.	Jr. Tex.	21 Enterprise	Elizabeth City, N. C.
Dulin, C. J.	Sr. Ch. and D.	1922 Hillsboro St.	Charlotte, N. C.
Duncan, C. S.	Fr. E. E.	107 6th, Box 3243	N. Wilkesboro, N. C.
Duncan, M. D.	Fr. Aero. E.	1313 Hillsboro St.	Roxboro, N. C.
Dunlap, B. W.	Fr. Ch. E.	21 South, Box 3617	Hillgirt, N. C.
Dunn, W. B.	So. For.	406 Brooks Ave.	Kennerdell, Pa.
Dunnagan, C. R.	Sr. Tex. Mfg.	102 Watauga, Box 3002	Yadkinville, N. C.
Durham, E. E.	So. Ag. Ed.	128 7th, Box 3328	Kernersville, N. C.
Dusty, W. J.	Sr. Aero. E.	Gymnasium, Box 5262	Waterville, Me.
Duval, R. L.	Jr. E. E.	222 Cox Ave.	Watha, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Eaddy, H. E.	Grad. Ag.		
Eagle, W. P.	Fr. Ch. E.	111 5th, Box 3211	Salisbury, N. C.
Eaker, R. C.	Sr. For.	201 Park Ave.	Cherryville, N. C.
Eakins, R. B.	So. M. E.	115 7th, Box 3315	Wilmington, N. C.
Earley, C.	Jr. Ag. Chem.	116 7th, Box 3316	Rutherfordton, N. C.
East, R. E.	Fr. Ind. Arts	Gymnasium, Box 5191	White Sulphur Springs, W. Va.
Eaton, E. C.	Fr. Tex. Mgt.	205 South, Box 3537	Yadkinville, N. C.
Echard, C. P.	So. Tex.	206 Watauga, Box 3024	Greensboro, N. C.
Edge, J. N.	So. Ag.	106 6th, Box 3306	Fayetteville, N. C.
Edgerton, E. R.	Sr. Ag. E.	316 1911, Box 3796	Kenly, N. C.
Edmiston, J. A.	Fr. Ag.	105 5th, Box 3205	Mt. Ulla, N. C.
Edmonds, H. W.	Fr. Tex. Mfg.	c/o Mrs. I. Baugh, Raleigh, Rt. 6	Garden City, N. Y.
Edwards, D. W.	Fr. Tex.	313 South, Box 3577	Fort Mill, S. C.
Edwards, H. V.	Fr. Tex. Mgt.	121 South, Box 3521	Fort Mill, S. C.
Edwards, R. L.	Jr. Ag. Ed.	116 7th, Box 3316	Spring Hope, N. C.
Edwards, W. A., Jr.	Sr. C. E.	235 1911, Box 3775	Princeton, N. C.
Edwards, W. J.	So. Ch. E.	205 Forest Rd.	Sanford, N. C.
Efird, J. T.	So. Ch. E.	6 Enterprise St.	Albemarle, N. C.
Elam, P. R.	Sr. Ag. Ed.	314 E. Park Dr.	King's Mountain, N. C.
Ellington, E. D.	So. Ag. Ed.	409 Chamberlain	Graham, N. C.
Ellington, H. O.	Fr. Ag. E.	104 4th, Box 3114	Reidsville, N. C.
Elliott, E. D.	So. Ag.	2408 Stafford Ave.	Hiddenite, N. C.
Elliott, R. F.	So. Ind. Arts	106 Watauga, Box 3006	Rich Square, N. C.
Ellis, J. H.	Fr. M. E.	319 South, Box 3583	Wilmington, N. C.
Ellis, W. H.	Jr. Cer. E.	216 Watauga, Box 3034	Henderson, N. C.
Elson, J.	Grad. Soils	2302 Hillsboro St.	Brooklyn, N. Y.
Enfield, C. W.	Sr. Tex. W. & D.	104 Watauga, Box 3004	Graham, N. C.
Enloe, J. H.	Sr. Ag. Ed.	132 7th, Box 332	Franklin, N. C.
Entwistle, W. E.	Jr. H. S. T.	307 Watauga, Box 3043	Old Orchard Beach, Me.
Epps, L. M., Jr.	So. M. E.	104 7th, Box 3304	Newton, N. C.
Ericson, E. H.	So. For.	223 Hawthorne Rd.	Manchester, Mass.
Espey, J. W., Jr.	Sr. Tex.	1709 Hillsboro St.	Hickory, N. C.
Evans, M. M.	Grad. Pl. Path.		
Evans, W. G., II	Sr. For.	213 Woodburn Rd.	Wilmington, N. C.
Everett, H. R.	So. Tex.	302 Horne St.	Greensboro, N. C.
Everett, Maxilla (Miss)	So. Land. Arch.	1719 Park Dr.	Palmyra, N. C.
Fabrizi, A. P.	Sr. C. E.	220 7th, Box 3353	Geneva, N. Y.
Fagan, M. D.	So. Ag. Ed.	17 Maiden Lane	Campabello, S. C.
Fallwell, M. L.	So. Ch. E.	1600 St. Mary's St.	Raleigh, N. C.
Fanning, W. L.	Jr. Tex.	104 Watauga, Box 3009	Shelby, N. C.
Faris, C. B.	Jr. Ag. Ec.	c/o C. B. Faris, Rt. 4	Raleigh, N. C.
Faris, T. B.	Fr. M. E.	c/o C. B. Faris, Rt. 4	Raleigh, N. C.
Farlow, J. N.	Jr. C. E.	8 Ferndell Lane	Greensboro, N. C.
Farrar, M. B.	Fr. Ag.	210 6th, Box 3258	Burkeville, Va.
Farrior, J. W.	Sr. For.	240 1911, Box 3780	Burgaw, N. C.
Farrior, M. L.	Sr. Ag. Ed.	114 Watauga, Box 3014	Rosehill, N. C.
Farris, C. B.	Grad.		
Faucette, K. H.	Fr. Tex.	1720 Hillsboro St.	Burlington, N. C.
Feit, S.	So. For.	222 7th, Box 3354	Brooklyn, N. Y.
Fendt, L. M., Jr.	Fr. E. E.	102 5th, Box 3202	Jacksonville, Fla.
Ferger, J.	Grad. Bot.		Cincinnati, O.
Ferguson, J. T.	Fr. Ch. E.	726 S. Boylan Ave.	Raleigh, N. C.
Ferguson, P. S.	Fr. An. Hus.	227 South, Box 3559	Bryson City, N. C.
Ferguson, W. S.	Fr. Ch. E.	314 Perry St.	Raleigh, N. C.
Fesperman, E. F.	Fr. Ag.	Gymnasium	Charlotte, N. C.
Filicky, J. G.	So. Ch. E.	517 S. Salisbury St.	Raleigh, N. C.
Findlay, J. H.	Sr. For.	103 Chamberlain St.	Gastonia, N. C.
Fisher, E. R.	Fr. For.	313 South, Box 3577	Concord, N. C.
Fisher, E. W.	Fr. Tex. C. & D.	1922 Hillsboro St.	Salisbury, N. C.
Fisher, G. E., Jr.	Fr. Ag. Ed.	1715 Park Dr.	Ahoskie, N. C.

NORTH CAROLINA STATE COLLEGE

Name	Classification	School Address	Home Address
Fisher, J. H.	So. Ag. Ed.	319 1911, Box 3799	Salisbury, N. C.
Fisher, W. H.	Sr. M. E.	104 1911, Box 3704	Brasstown, N. C.
Fitzmaurice, E. A.	Jr. Tex. Mfg.	1702 Hillsboro St.	Mohall, N. Dak.
Flannagan, F. G., Jr.	Sr. Arch. E.	2314 Hillsboro St.	Henderson, N. C.
Fleetwood, R. W.	So. Ag.	8 Fernell Lane.	Madison, N. C.
Fleming, C. J.	Sr. Aero. E.	2 Hope St.	Henderson, N. C.
Fleming, E. P., Jr.	Jr. Aero. E.	2098 Hillsboro St.	Asheville, N. C.
Fletcher, L. A.	Jr. E. E.	1413 Scales St.	Raleigh, N. C.
Flowe, J. S., Jr.	Jr. Tex.	1922 Hillsboro St.	Greensboro, N. C.
Floyd, G. H.	Sr. For.	111 Watauga, Box 3011	Fairmont, N. C.
Floyd, W. L.	Fr. Ag. Ec.	111 Watauga, Box 3011	Fairmont, N. C.
Flythe, J. S.	Fr. C. E.	2114 Country Club Dr.	Raleigh, N. C.
Foley, J. W., Jr.	Fr. Ch. E.	110 South, Box 3510	Greenville, N. C.
Forbes, E. H.	Sr. An. Hus.	Brooks Ave., Box 5441	Gastonia, N. C.
Ford, W. D.	Jr. Ch. E.	111 Groveland Ave.	Asheville, N. C.
Fort, J. D.	Jr. Ag. Ec.	209 Park Ave.	Clinton, N. C.
Forziati, E. D.	Fr. Ind. E.	305 7th, Box 3371	North Bergen, N. J.
Foster, G. R.	Fr. For.	327 7th, Box 3393	Rockville Centre, N. Y.
Foster, J. M.	So. Aero. E.	Rt. 6, Raleigh, N. C.	Raleigh, N. C.
Foster, J. W., Jr.	So. Ch. E.	2407 Clark Ave.	Portsmouth, Va.
Foster, W. L.	Sr. For.	Y. M. C. A., Box 5276	Littleton, N. C.
Fountain, P. R.	Fr. Ch. E.	211 Groveland Ave.	Richlands, N. C.
Fountain, W. R.	Sr. Ind. Mgt.	213 Watauga, Box 3031	Wilmington, N. C.
Fowler, G. R.	Grad. Plant Path.		
Fowler, T. J.	Fr. Tex.	131 South, Box 3531	Greensboro, N. C.
Fowles, C. V.	So. E. E.	306 5th, Box 3230	Tryon, N. C.
Fox, G. P.	So. Arch. E.	213 Woodburn Rd.	Rocky Mount, N. C.
Fox, H. W.	Fr. C. E.	311 6th, Box 3271	Cambridge, N. Y.
Frame, M. L.	Fr. For.	130 South, Box 3530	Washington, D. C.
Franch, R. W.	So. M. E.	115 7th, Box 3315	Scotland Neck, N. C.
Frank, F. W.	So. Biol.		
Frank, S. B.	So. Tex. Mfg.	206 South, Box 3538	Wilson, N. C.
Franklin, C. D.	So. Ch. E.	219 Hillcrest Rd.	Canton, N. C.
Franklin, W. L.	Jr. Ag.	301 Watauga, Box 5483	Franklin, N. C.
Frazier, T. R., Jr.	So. E. E.	301 6th, Box 3261	Warrenton, N. C.
Fredericks, John W.	Jr. Tex. C. & D.	2220 Hillsboro St.	Wilmington, N. C.
Freeman, D. N.	Fr. Ag.	129 Woodburn Rd.	Colerain, N. C.
Freeman, G. R.	Sr. Tex. C. & D.	116 1911, Box 3716	Norwood, N. C.
Freeman, N. W., Jr.	So. Ag. Ed.	2 South, Box 3598	Star, N. C.
Freeman, W. B.	Jr. M. E.	Power Plant, Box 5241	Charlotte, N. C.
Friddle, C. R.	Grad. Zool.		
Fried, S. I.	Fr. For.	116 Groveland Ave., Box 3371	Brooklyn, N. Y.
Frink, E. E.	So. An. Hus.	124 7th, Box 3324	Bladenboro, N. C.
Frink, J. C.	Sr. Ag.	207 4th, Box 3125	Bladenboro, N. C.
Fritz, C. J.	So. E. E.	303 1911, Box 3783	Greensboro, N. C.
Fry, G. W.	Sr. Tex. Mfg.	210 1911, Box 5172	Raleigh, N. C.
Frye, C. H.	Fr. Tex. Mfg.	Gymnasium Box 5281	Hickory, N. C.
Frye, J. T.	Jr. For.	118 Hillcrest Rd.	Wardensville, W. Va.
Fulcher, G. H.	So. Tex. Mgt.	121 7th, Box 3321	Leaksville, N. C.
Fulerwider, E., Jr.	Jr. Ind. Arts	1307 Jackson St.	Burlington, N. C.
Fulghum, J. S., Jr.	Sr. Ind. Mgt.	615 Wills Forest St.	Raleigh, N. C.
Fuller, A. C.	Fr. Tex.	1 South, Box 3597	Henderson, N. C.
Fuller, J. W., Jr.	Fr. Aero. E.	314 E. Hargett St.	Raleigh, N. C.
Fulp, C. L.	Sr. Tex. Mfg.	304 1911, Box 3784	Kernersville, N. C.
Furr, G. C., Jr.	Fr. Ch. E.	310 South, Box 3514	High Point, N. C.
Furr, W. L., Jr.	Fr. C. E.	309 7th, Box 3375	Concord, N. C.
Gaither, J. B.	Sr. Tex. Mfg.	W. Boulevard	Raleigh, N. C.
Gaither, T. K.	Fr. Tex.	1720 Hillsboro St.	Statesville, N. C.
Gambill, D. P.	Fr. Tex.	212 Cox Ave.	Independence, Va.
Gant, G.	So. Cer. E.	226 7th, Box 3358	Burlington, N. C.
Gardner, F. E.	Fr. Tex.	Gymnasium	Smithfield, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Garner, C. J.	Fr. For.	215 Park Ave.	Newport, N. C.
Garnett, W. R.	Fr. E. E.	307 South, Box 3571	Enfield, N. C.
Garrett, C. L.	Fr. Ag. Ed.	115 Woodburn Rd.	Greensboro, N. C.
Garriss, A. R.	Sr. Ag.	101 Watauga, Box 3001	Watha, N. C.
Garris, H. R.	Grad. Bot.		
Gaskins, E. L.	So. Ind. E.	211 7th, Box 3343	Grifton, N. C.
Gaskins, J. D.	Fr. Tex.	21 South, Box 3617	New Bern, N. C.
Gaskins, Walter W.	Fr. Ch. E.	21 South, Box 3617	New Bern, N. C.
Gaskins, W. W.	Sr. Cer. E.	20 South, Box 3616	New Bern, N. C.
Gattis, C. M., Jr.	So. Cer. E.	209 Park Ave.	Louisburg, N. C.
Gawhowski, P.	Fr. For.	310 7th, Box 3376	New York, N. Y.
Gay, T. R.	Fr. Ag.		Jackson, N. C.
Geitner, J. M.	Sr. Tex.	1301 Hillsboro St.	Hickory, N. C.
Gentile, V. I.	Fr. C. E.	321 7th, Box 3387	Brooklyn, N. Y.
George, D'Arcy R.	Grad. Geol.		
Gerber, T. E.	So. For.	1710 Hillsboro St.	Brooklyn, N. Y.
Getsinger, J. G.	So. Ch. E.	College Court Apt. 1.	Plymouth, N. C.
Gewehr, A. R.	So. Tex. Mfg.	1301 Hillsboro St.	South Orange, N. J.
Gewehr, R. P.	Fr. Tex.	309 7th, Box 3375	South Orange, N. J.
Gibbons, W. E.	So. For.	220½ Hope St.	Bogota, N. J.
Gibbs, D. S.	Fr. Ag. Ed.	206 South, Box 3538	Seven Springs, N. C.
Gibbs, H. S., Jr.	So. Cer. E.	1720 Hillsboro St.	Morehead City, N. C.
Gibbs, L. W.	Sr. Ag. Ec.	116 Groveland Ave.	Engelhard, N. C.
Gibbs, W. B.	Fr. Ch. E.	232 South, Box 3564	Reidsville, N. C.
Gibson, P. J.	Jr. Ag.	119 7th, Box 3319	Franklin, N. C.
Gilbert, D. L.	Sr. Ind. Mgt.	305 Watauga, Box 3041	Dunn, N. C.
Giles, D. L.	Fr. For.	304 Horne St.	Nebraska City, Nebr.
Giles, J. F.	Sr. Ag.	306 Wat., Box 3042	Archdale, N. C.
Gill, C. E.	Fr. For.	2402 Everett Ave.	Richmond, Va.
Gill, M. A.	Jr. Aero. E.	2209½ Hope St.	Hawthorne, N. J.
Giller, H. A.	So. Ch. E.	1012 Harvey St.	Montclair, N. J.
Gillespie, H. M., Jr.	Fr. M. E.	214 7th, Box 3346	Spring Lake, N. J.
Gilmore, J. F.	Jr. E. E.	211 Watauga, Box 3029	Oxford, N. C.
Glass, G. H.	Fr. Tex. Mfg.	207 5th, Box 3219	Greensboro, N. C.
Glod, W. J.	So. E. E.	228 7th, Box 3360	Castle Hayne, N. C.
Godfrey, H. D.	Fr. Ag.	1304 Jackson St.	Waxhaw, N. C.
Godfrey, R. K.	Grad. Ag.		
Goforth, G. M.	So. Ag. Ed.	133 7th, Box 3401	Shelby, N. C.
Gomo, K. P.	Sr. Arch.	2004 Hillsboro St.	High Point, N. C.
Good, T. L., Jr.	Fr. E. E.	1219 Courtland Dr.	Staunton, Va.
Goodman, V. J.	Sr. An. Hus.	306 1911, Box 3786	Concord, N. C.
Goodwin, R. E., Jr.	Fr. Ag.	601 Fayetteville St.	Raleigh, N. C.
Goral, M.	Fr. For.	310 7th, Box 3376	New York, N. Y.
Gorham, R. C.	Fr. M. E.	114 E. Park Dr.	Washington, N. C.
Gorrell, L. R.	Fr. M. E.	210 5th, Box 3222	Greensboro, N. C.
Gower, T. W.	Fr. E. E.	301 4th, Box 3127	Grifton, N. C.
Grady, J. D., Jr.	Fr. C. E.	College Court Apt. 5.	Seven Springs, N. C.
Grady, R. H.	Sr. San. E.	6 Ferndell Lane.	Kinston, N. C.
Graham, R. B., Jr.	Sr. Tex. C. & D.	103 Chamberlain St.	Charlotte, N. C.
Graham, T. K.	Fr. Tex.	1720 Hillsboro St.	
Graham, W. B.	Sr. Tex. Mfg.	2402 Hillsboro St.	Vass, N. C.
Granger, W. B.	Jr. Ind. E.	139 1911, Box 3739	Greensboro, N. C.
Grant, H. J.	Fr. Tex. Mgt.	State College Sta., Box 5243	Raleigh, N. C.
Grant, H. W.	Fr. Ch. E.	112 South, Box 3512	Jackson, N. C.
Grant, I. F.	So. M. E.	123 Brooks Ave., Box 5543	Newport News, Va.
Grantham, J. E.	Sr. Con. E.	307 1911, Box 3787	Rocky Mount, N. C.
Graves, F. W., Jr.	Sr. Ch. E.	1620 Hillsboro St.	Mebane, N. C.
Gray, C. J.	Jr. M. E.	218 7th, Box 3350	Wilmington, N. C.
Gray, D. S.	Fr. Ag.	202 6th, Box 3250	Stokes, N. C.
Greaves, J., Jr.	Sr. Tex. C. & D.	313 1911, Box 3793	New Bedford, Mass.
Green, A. H.	So. For.	230 1911, Box 3770	Zebulon, N. C.
Green, Charlotte (Mrs.)			
Greene, E. M., Jr.	Fr. Ag. Ed.	119 7th, Box 3319	Peachland, N. C.
Green, P.	Sr. M. E.	108 1911, Box 3708	Sylva, N. C.

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<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Greene, P. O.	Jr. Tex. Mgt.	2402 Hillsboro St.	Monroe, N. C.
Greene, R. E. L.	Grad. Ag.		
Green, R. J.	So. Ch. E.	306 E. Peace St.	Raleigh, N. C.
Greenlee, W. G.	Fr. Ag.	129 1911, Box 3729	Marion, N. C.
Greenstien, L.	Fr. Tex.	103 South, Box 3503	Kinston, N. C.
Gregg, P. P.	So. Con. E.	110 7th, Box 3310	Florence, S. C.
Gregory, C. F.	So. Ch. E.	213 7th, Box 3345	Richmond, Va.
Gregory, D. W.	Grad. Ag.		
Gregory, E. M.	Fr. Ag.	329 South, Box 3593	Elizabeth City, N. C.
Grice, F. M.	Fr. Ag. Ed.	304 South, Box 3568	Elizabeth City, N. C.
Grier, E. L., Jr.	Fr. Ch. E.	223 South, Box 3555	Charlotte, N. C.
Griffin, B.	Sr. For.	222 Park Ave.	Nashville, N. C.
Griffin, C. A.	So. Ag.	13 Polk, Box 5127	Rocky Mount, N. C.
Griffin, D. McL.	Jr. Tex.	567 N. Person St.	Reidsville, N. C.
Griffin, E. C.	So. Ch. E.	2220 Hillsboro St.	Monroe, N. C.
Griffin, F. M.	Fr. M. E.	332 7th, Box 3398	Burlington, N. C.
Griffin, J. E.	Fr. Land. Arch.	213 Woodburn Rd.	Sanford, N. C.
Griffin, J. H.	Sr. Ch. E.	2220 Hillsboro St.	Monroe, N. C.
Griffin, R. W.	Fr. C. E.	212 5th.	La Grange, N. C.
Griffin, T. J.	So. M. E.	109 7th, Box 3309	Neuse, N. C.
Griffin, W. B.	So. Arch. E.	129 Hillcrest Rd.	Goldsboro, N. C.
Griffith, B. T.	Fr. For.	306 South, Box 3570	Charleston, S. C.
Griffith, D. W.	Jr. Aero. E.	308 Watauga, Box 3044	Kernersville, N. C.
Griffiths, P. A.	Sr. For.	2411 Everett Ave.	Raleigh, N. C.
Grob, W. G.	Fr. Ch. E.	222 South, Box 3554	Merchantville, N. J.
Gurvitz, G.	Fr. Tex. Mfg.	104 6th, Box 3240	Long Island, N. Y.
Gustafson, R. A.	Fr. E. E.	327 1911, Box 3807	Cranston, R. I.
Guthrie, S. H.	Fr. Ch. E.	120½ Groveland Ave.	Morehead City, N. C.
Guy, E. C., Jr.	Fr. Tex. C. & D.	2405 Clark Ave.	Newland, N. C.
Gwaltney, H. G.	Sr. E. E.	322 1911, Box 3802	Winston-Salem, N. C.
Gyles, R. C., Jr.	Fr. Ch. E.	305 South, Box 3569	Siler City, N. C.
Hackney, J. C.	Grad. Ch.	2302 Hillsboro St.	Greensboro, N. C.
Haene, W. H.	Fr. M. E.	307 5th, Box 3231	Concord, N. C.
Hagen, G. H.	So. C. E.	120 Harding St.	Raleigh, N. C.
Haigwood, T. J., Jr.	So. For.	17 W. Dixie Dr., Box 5472	N. Wilkesboro, N. C.
Hairr, V. B.	Fr. Ag. Ed.	103 4th, Box 3113	Faison, N. C.
Hall, C. J.	Jr. E. E.	220½ Cox Ave.	Rockingham, N. C.
Hall, C. O.	Jr. Ch. E.	218 7th, Box 3350	Saluda, N. C.
Hall, D. W.	Fr. Hort.	126 Forest Rd.	Bahama, N. C.
Hall, K. W.	So. Cer. E.	237 1911, Box 3777	Pickwick Dam, Tenn.
Hall, L. N.	Sr. Ag. Ed.	115 1911, Box 3715	Salisbury, N. C.
Halsted, B. C.	Fr. C. E.	2 South, Box 3598	Arlington, Va.
Hamilton, C. E.	So. E. E.	5 Dixie Trail, Box 5231	Beaufort, N. C.
Hamilton, D. E.	So. Tex.	211 Watauga, Box 3029	Charlotte, N. C.
Hamilton, J. E.	Sr. Ind. Mgt.	305 Watauga, Box 3041	Godwin, N. C.
Hamilton, J. P.	Fr. Tex.	323 South, Box 3587	Laurinburg, N. C.
Hamlin, J. J.	Sr. Ag.	229 1911, Box 3769	Oxford, N. C.
Hamme, J. B.	So. Geol. E.	110 6th, Box 3246	Oxford, N. C.
Hammon, M. D.	Fr. For.	508 Dixie Trail, Box 1245	Huntingdon, Pa.
Hampp, C. W.	Fr. M. E.	1922 Hillsboro St.	High Point, N. C.
Hampton, R. C.	Fr. Ag. Ed.	212 Cox Ave.	Stratford, N. C.
Hamrick, J. C.	Fr. C. E.	3410 Hillsboro St.	Raleigh, N. C.
Handy, R. S.	Fr. Tex.	303 4th, Box 3129	Philadelphia, Pa.
Handy, R. P.	Jr. Ag. Ec.	311 Watauga, Box 3247	Grassy Creek, N. C.
Hanff, I. H.	Fr. Ag.	211 Hawthorne Rd.	Scotland Neck, N. C.
Hanna, G. V., Jr.	Jr. Tex. W. & D.	330 1911, Box 3810	Mooreville, N. C.
Hardee, J. F.	Fr. For.	7 South, Box 3603	High Point, N. C.
Harden, J. H.	Sr. E. E.	50 1911, Box 3821	Graham, N. C.
Hardison, T. V., II	So. Ag.	119 Hawthorne Rd.	East Spencer, N. C.
Harkey, J. M.	So. Tex. Mgt.	225 South, Box 3557	East Spencer, N. C.
Harley, B. R.	So. For.	221 W. Park Dr.	Chadbourne, N. C.
Harper, C. P.	Fr. Ag. Ec.	1408 Hillsboro St.	Rocky Mount, N. C.
Harper, E. M.	Fr. Ag. Ed.	118 South, Box 3518	Deep Run, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Harper, H. H.	Fr. Ag.	Garner	Garner, N. C.
Harper, T.	Fr. Ag. Ed.	119 South, Box 3519	Deep Run, N. C.
Harper, W. McG.	Sr. Ag. Ed.	Garner	Garner, N. C.
Harrell, A. D.	So. E. E.	17 Maiden Lane	Gibsonville, N. C.
Harrell, J. P.	Fr. Ag.	214 South, Box 3546	Stantonsburg, N. C.
Harrelson, F. R.	So. E. E.	1720 Hillsboro St.	Elm City, N. C.
Harrill, T. S.	So. E. E.	133 1911, Box 3734	King's Mountain, N. C.
Harris, A. E.	Fr. M. E.	201 Ashe Ave.	Raleigh, N. C.
Harris, B. F.	Jr. Ch. E.	2220 Hillsboro St.	Henderson, N. C.
Harris, C. P.	So. Ch. E.	1922 Hillsboro St.	Elizabeth City, N. C.
Harris, C. I.	So. For.	222 Park Ave.	Elizabeth City, N. C.
Harris, C. D.	Jr. For.	332 1911, Box 3812	Lexington, N. C.
Harris, C. S.	Jr. Ag. Ec.	1818 Glenwood Ave.	Raleigh, N. C.
Harris, D. C.	So. Tex.	234 1911, Box 3774	Thomasville, N. C.
Harris, G. V.	So. Ch. E.	2004 Hillsboro St.	Hawthorne, N. J.
Harris, I. J.	Fr. Tex.	312 South, Box 3576	Lowell, N. C.
Harris, J. B.	Fr. Ag. Ed.	200 E. Edenton St.	Pittsboro, N. C.
Harris, R. P.	Grad. Ch. E.	220 N. East St.	Raleigh, N. C.
Harris, R. T.	Fr. Ag.	122 South, Box 3522	Fayetteville, N. C.
Harris, T. G.	Fr. For.	6 Enterprise	Macon, N. C.
Harris, W. H.	Fr. Land. Arch.	2412 Everett Ave.	Siler City, N. C.
Harrison, J. H.	Fr. Ch. E.	215 Boylan Ave.	Manteo, N. C.
Harrison, W. E.	Fr. For.	209 Park Ave., Box 5394	Castile, N. Y.
Hartley, H. J.	Jr. For.	2008 Hillsboro St.	Clifton Forge, Va.
Hartman, F. J.	Fr. For.	109 5th, Box 3209	Merchantville, N. J.
Hartness, T. S.	Fr. E. E.	103 4th, Box 3113	Sanford, N. C.
Haseltine, A. B.	So. M. E.	2701 Clark Ave.	Asheville, N. C.
Hash, W. A.	So. Ag. Ed.	107 7th, Box 3307	Piney Creek, N. C.
Hastings, T. E.	Fr. Tex.	222 Park Ave.	Camden, N. C.
Hatch, R. R.	Fr. M. E.	100 N. Bloodworth St.	Goldsboro, N. C.
Hathaway, J. B.	Fr. Ch. E.	303 6th, Box 3263	Sunbury, N. C.
Hattaway, A. C.	So. Tex.	2513 Clark Ave.	Greensboro, N. C.
Hawes, S. J.	Sr. Tex. C. & D.	103 Chamberlain St.	Charlotte, N. C.
Hawfield, W. D.	Fr. Ch. E.	102 5th, Box 3202	Concord, N. C.
Hawks, S. N.	Fr. Ag.	220 South, Box 3552	Norlina, N. C.
Hay, T. T.	So. Ind. E.	105 Glenwood Ave.	Raleigh, N. C.
Hayes, F. R.	Fr. Tex.	311 5th, Box 3225	Charlotte, N. C.
Haynes, J. C.	Jr. Cer. E.	1621 Park Dr.	Winston-Salem, N. C.
Haynes, T. E.	So. Aero. E.	103 7th, Box 3303	Burlington, N. C.
Hays, B. S.	So. For.	208 Watauga, Box 3026	Signal Mountain, Tenn.
Hayworth, M. S.	Jr. Con. E.	202 1911, Box 3742	Asheboro, N. C.
Healy, W. M., Jr.	So. E. E.	118 E. Park Dr.	Raleigh, N. C.
Hearn, M. H.	Fr. Ag.	Brooks Ave., Box 5441	Laurinburg, N. C.
Heatherley, J. R.	Jr. Ind. Arts.	1200 E. Davie St.	Raleigh, N. C.
Hedgpeth, J. A.	Jr. Cer. E.	214 Watauga, Box 3032	Rowland, N. C.
Heffernan, D. J., Jr.	Fr. Tex.	1806 Hillsboro St.	Coral Gables, Fla.
Hege, J. W.	Fr. Tex.	308 South, Box 3572	Lexington, N. C.
Heidelbach, B. A., Jr.	So. Land. Arch.	313 Watauga, Box 3049	Danville, Va.
Helms, C. A.	Fr. E. F.	210 Woodburn Rd.	Waxhaw, N. C.
Helms, E. V.	Jr. Tex. Mfg.	1720 Hillsboro St.	Charlotte, N. C.
Hemmings, J. D.	So. Ag. Ed.	306 Chamberlain St.	Dobson, N. C.
Henderson, J. V., Jr.	Jr. E. E.	326 1911, Box 3806	Monroe, N. C.
Hendren, J. B.	Fr. M. E.	223½ Hillcrest Rd.	Pee Dee, N. C.
Hendren, T. E.	Jr. Ag. Ed.	134 Woodburn Rd., Box 5325	Hiddenite, N. C.
Hendricks, P. M.	Grad.		
Henley, E. P.	Jr. Tex.	134 1911, Box 3734	Durham, N. C.
Henry, F. D.	Fr. Tex.	222 Park Ave.	Lilesville, N. C.
Henry, R. M.	Sr. For.	1301 Hillsboro St.	Russellville, Ark.
Herring, G. H.	Sr. Ag.	110 Watauga, Box 3010	Goldsboro, N. C.
Herring, J. W.	Fr. Tex.	6 Hope St.	Warsaw, N. C.
Hertz, N. S.	Sr. Ch. E.	217 7th, Box 3349	Long Branch, N. J.
Hester, O. C.	Fr. Ag. Ec.	118 N. Wilmington St.	Bladenboro, N. C.
Hart, E. C., Jr.	Sr. Ch. E.	232 7th, Box 3364	Hartford, Conn.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Hicks, Natalie E. (Miss)	Sr. H. S. T.	1009 W. Lenoir St.	Raleigh, N. C.
Higgins, J. C., Jr.	So. For.	210 Woodburn Rd.	Harrisburg, N. C.
Highhill, W. E.	Fr. E. E.	328 South, Box 3592	Coats, N. C.
Hilburn, W. B., Jr.	Fr. Tex. Mfg.	216 1911, Box 3756	Bladenboro, N. C.
Hildebrand, B. A.	So. Ch. E.	205 Watauga, Box 3023	Lincolnton, N. C.
Hill, C. H.	Grad. Zoo.	2208 Hope St.	Yadkinville, N. C.
Hill, D. H.	Fr. Ch. E.	311 5th, Box 3235	Charlotte, N. C.
Hill, L. O.	Sr. Ag. Ed.	117 Watauga, Box 3017	Vanceboro, N. C.
Hill, P. G., Jr.	So. Tex. Mfg.	Gymnasium, Box 5402	Rocky Mount, N. C.
Hill, W. B.	Fr. Ag. Ed.	College Court Apt. 1	Winterville, N. C.
Hilliard, W. N.	Fr. E. E.	Cary, N. C.	Cary, N. C.
Hilton, J. W.	So. For.	1610 Ambleside Dr.	Raleigh, N. C.
Himmeler, G. G.	Fr. E. E.	314 7th, Box 3380	Milltown, N. J.
Hindricks, R. J.	So. Ind. E.	37 Gymnasium, Box 5252	Fox Chapel, Pa.
Hines, J. B.	Jr. Tex.	210 1911, Box 5172	Winston-Salem, N. C.
Hinkle, C. G.	Fr. Tex.		Greensboro, N. C.
Hinshaw, L. M.	Sr. M. E.	119 1911, Box 3719	Winston-Salem, N. C.
Hinson, H. G.	So. C. E.	747 Hillsboro St.	Raleigh, N. C.
Hinson, R. B.	Fr. E. E.	306 6th, Box 3266	Monroe, N. C.
Hinson, T. C.	Fr. Tex. Mfg.	6 South, Box 3602	Stanfield, N. C.
Hobbs, A. M.	Fr. Aero. E.	108 6th, Box 3244	Charlotte, N. C.
Hobbs, E. L.	So. M. E.	201 Park Ave.	Delco, N. C.
Hobbs, E. L.	Grad. C. E.	201 Park Ave.	
Hobbs, LaF. H.	Sr. For.	2232 Hillsboro St.	Delco, N. C.
Hoch, P. F.	So. Ag. E.	223 Hawthorne Rd.	Poughkeepsie, N. Y.
Hodges, B. B.	So. Ag. Ed.	College Court Apt. 5	Rowland, N. C.
Hoek, M. B.	Sr. H. S. T.	233 7th, Box 5191	Long Island, N. Y.
Hoffman, R. B.	So. Ch. E.	310 Watauga, Box 3046	Asheville, N. C.
Holadia, W. G.	Fi. Tex.	2312 Hillsboro St.	Roanoke Rapids, N. C.
Holbrook, J. C.	So. Con. E.	227 1911, Box 3767	Albemarle, N. C.
Holcombe, J. H.	So. C. E.	301 Park Ave.	Fayetteville, N. C.
Holden, J. H., Jr.	Fr. C. E.	311 South, Box 3575	Supply, N. C.
Holder, J. A., Jr.	Jr. Tex.	135 1911, Box 3735	Asheboro, N. C.
Hollamon, J. S.	Grad. An. Hus.		
Holland, B.	Grad. Ch.		
Holland, L.	Jr. Ag.	5 Infirmary, Box 5575	Charles, N. C.
Holland, T. B.	Sr. Ag. Ed.	117 Watauga, Box 3017	Holly Springs, N. C.
Hollis, J. W., Jr.	Sr. M. E.	104 1911, Box 3704	Laurinburg, N. C.
Hollowell, E. G.	Fr. Ch. E.	207 6th, Box 3255	Elizabeth City, N. C.
Holmes, S. C.	Jr. Aero. E.	130 1911, Box 3730	Cambridge, N. Y.
Holyfield, J. W.	Fr. Ag.	331 South, Box 3595	Casma, N. C.
Honbarrier, A. N.	Fr. Ag. Ed.	210 6th, Box 3258	Salisbury, N. C.
Honeycutt, A. J., Jr.	Sr. For.	208 Chamberlain St.	Raleigh, N. C.
Honeycutt, J. N.	Fr. Ag.	17 South, Box 3613	Varina, N. C.
Hood, B. R.	So. Ch. E.	2220 Hillsboro St.	Washington, N. C.
Hood, D. H.	Fr. Ag.	307 4th, Box 3133	Dunn, N. C.
Hood, J. R., Jr.	Fr. Ch. E.	3306 Hillsboro St.	Lillington, N. C.
Hood, W. D., Jr.	Jr. Ch. E.	2405 Clark Ave., Box 5475	Smithfield, N. C.
Hooper, D. G.	Fr. Ch. E.	2402 Hillsboro St.	Mebane, N. C.
Hooper, R. L.	So. Ch. E.	117½ Park Avenue	Cowarts, N. C.
Horn, A.	Fr. For.	116 Groveland Ave., Box 5731	New York, N. Y.
Horton, A., Jr.	Jr. Tex.	1708 Park Dr.	Raleigh, N. C.
Horton, B. S.	Fr. M. E.	317 South, Box 3581	Charlotte, N. C.
Howard, H. G.	Fr. For.	1709 Hillsboro St.	Montpelier, Vt.
Howell, G. B.	Fr. Ag.	220 Chamberlain St.	Como, N. C.
Howell, O. J., Jr.	So. Ag.	23 Logan Court	Goldsboro, N. C.
Howle, V. W.	Jr. Ind. Arts	102 Watauga, Box 3002	Georgetown, S. C.
Hoyle, M. H., Jr.	Jr. E. E.	207 Watauga, Box 3025	Cooleemee, N. C.
Hoyle, W. F.	So. For.	216 7th, Box 3348	Zebulon, N. C.
Hubbard, E. F.	Grad. Ag. Ed.	406 Brooks Ave.	Fayetteville, N. C.
Hubbard, J. B.	Sr. For.	112 Watauga, Box 3012	Williamsburg, Va.
Hube, W. K.	Jr. For.	2008 Hillsboro St.	Wise, Va.

STUDENT DIRECTORY

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<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Huberman, H. B.	Fr. Ch. E.	206 6th, Box 3254	Long Branch, N. J.
Huda, E. B.	Fr. For.	6 South, Box 3602	Wheeling, W. Va.
Hudson, E. C., Jr.	Jr. Ch. E.	317 1911, Box 3797	Wilmington, N. C.
Hudspeth, N. L., Jr.	Jr. Ch. E.	105 Watauga, Box 3005	Yadkinville, N. C.
Huff, J. L.	Sr. For.	125 1911, Box 3725	Mars Hill, N. C.
Huffman, R. L., Jr.	Jr. Ch. E.	212 Groveland Ave.	Brookfield, Mo.
Huggins, W. S.	So. C. E.	127 7th, Box 3327	Clarkton, N. C.
Hughes, D. C.	Fr. E. E.	W. Park Dr.	Hamlet, N. C.
Hughes, D. P.	Jr. For.	310 Hillsboro St.	Colerain, N. C.
Hughes, R. A.	Fr. Ag.	301 7th, Box 3367	Parkton, N. C.
Huneycutt, V. A.	So. Ag. Ec.	208 7th, Box 3340	Oakboro, N. C.
Hunnicut, R. L.	So. M. E.	134 7th, Box 3302	Monroe, N. C.
Hunt, W. T., Jr.	So. E. E.	117 7th, Box 3317	Apex, N. C.
Hunter, C. A.	So. Ag.	315 Watauga, Box 3051	Charlotte, N. C.
Hunter, G. W.	Sr. For.	525 N. East St.	Raleigh, N. C.
Hunter, J. E.	So. M. E.	110 7th, Box 3310	Charlotte, N. C.
Hunter, W. L.	Sr. Tex. C. & D.	239 1911, Box 3779	Salisbury, N. C.
Huntley, J. R.	Fr. M. E.	307 7th, Box 3373	Monroe, N. C.
Hurst, J. R.	Jr. Ag.	130 7th, Box 3330	Franklin, N. C.
Hussey, C. E.	Fr. Ch. E.	302 Boylan Apt.	Burgaw, N. C.
Hutchins, T. H.	Fr. Arch. E.	2320 Lake Dr.	Raleigh, N. C.
Hutchinson, G. LeG.	Fr. Tex. Mfg.	108 4th, Box 3118	Mt. Gilead, N. C.
Ingle, R. S.	Fr. Geol. E.	213 South, Box 3545	Statesville, N. C.
Ingram, J. H.	Fr. Tex.		
Ingram, S. O., Jr.	So. For.	226 7th, Box 3358	Arden, N. C.
Ingrisano, P. P.	Fr. C. E.	321 7th, Box 3387	Brooklyn, N. Y.
Ipock, J. H.	Fr. Ag.	212 South, Box 3544	New Bern, N. C.
Irby, P. B.	So. Ind. E.	1913 McCarthy St.	Raleigh, N. C.
Ireland, C. F.	Fr. Ag.	105 7th, Box 3305	Franklinton, N. C.
Irving, J. W., Jr.	Jr. Tex. Mfg.	401 N. Person St.	Wentworth, N. C.
Isaacson, J. A.	Fr. C. E.	304 6th, Box 3264	Ashley Falls, Mass.
Isehour, C. W.	So. Cer. E.	311 1911, Box 3791	Salisbury, N. C.
Jackson, B. B.	Fr. E. E.	225 South, Box 3557	Detroit, Mich.
Jackson, T. F., Jr.	Fr. E. E.	305 4th, Box 3131	Washington, N. C.
Jacobson, W. D.	Sr. Ch. E.	209 Park Ave.	Long Island, N. Y.
James, C. L.	So. Ag.	208 7th, Box 3340	Oakboro, N. C.
James, R. M.	Jr. Ind. E.	335 1911, Box 3815	Rocky Mount, N. C.
Jenkins, B. P., Jr.	Sr. Ag.	209 1911, Box 3749	Shelby, N. C.
Jenkins, F. A.	Fr. M. E.	204 South, Box 3536	Stanley, N. C.
Jennette, C. R.	Fr. Tex.	118 Hawthorne Rd.	New Bern, N. C.
Jennings, H. E.	Jr. M. E.	401 S. McDowell St.	Raleigh, N. C.
Jewell, W. L.	So. Con. E.	2407 Clark Ave., Box 5428	Sanford, N. C.
Jilcott, R. W., Jr.	Fr. Cer. E.	318 7th, Box 3384	Roxobel, N. C.
Johnson, A. L., Jr.	Fr. Ag. Ed.	205 4th, Box 3123	Lillington, N. C.
Johnson, A. M., Jr.	Fr. E. E.	8 South, Box 3604	Clayton, N. C.
Johnson, B. L.	So. Ag.	College Court Apt. 1	Scotland Neck, N. C.
Johnson, E. H.	So. Con. E.	225 1911, Box 3765	Angier, N. C.
Johnson, E. R.	Fr. Aero. E.	709 Hillsboro St.	Paw Creek, N. C.
Johnson, E. S.	Jr. Tex. C. & D.	122 1911, Box 3722	Kannapolis, N. C.
Johnson, F. J.	Sr. C. E.	301 5th, Box 3225	Tampa, Fla.
Johnson, H., Jr.	Jr. Tex.	1601 St. Mary's St.	Raleigh, N. C.
Johnson, J. E.	Fr. Ag.	5 Hope St.	Wallace, N. C.
Johnson, J. W.	Fr. Ag. Ed.	8 Ferndell Lane	Roseboro, N. C.
Johnson, LeG. K.	Fr. M. E.	321 7th, Box 3397	Winston-Salem, N. C.
Johnson, P. E., Jr.	Fr. M. E.	202 4th, Box 3120	Four Oaks, N. C.
Johnson, P. M., Jr.	Jr. E. E.	101 1911, Box 3701	Greensboro, N. C.
Johnson, R. S.	Jr. For.	705 W. South St.	Raleigh, N. C.
Johnson, T. A., Jr.	Fr. Tex. Mfg.	310 6th, Box 3270	Liberty, N. C.
Johnson, T. C.	So. Tex. C. & D.	709 Hillsboro St.	Paw Creek, N. C.
Johnson, W. B.	So. Ch. E.	204 1911, Box 3644	Selma, N. C.
Johnson, W. H., Jr.	Fr. Ag. Ed.	120 South, Box 3520	Whitakers, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Jolley, T. M.	Jr. For.	115 Forest Rd.	Durham, N. C.
Jolly, A. L.	So. For.	2004 Hillsboro St., Box 5565	Holland, Va.
Jones, B. A.	Fr. Ch. E.	204 6th, Box 3252	Columbia, N. C.
Jones, Cary B.	Fr. Tex.	Apex, N. C.	Apex, N. C.
Jones, Charles B.	Fr. E. E.	445 N. Wilmington St.	Raleigh, N. C.
Jones, C. S.	Jr. Tex.	Gymnasium, 2, Box 5402	Belhaven, N. C.
Jones, C. W.	Fr. Aero. E.	309 6th, Box 3269	Winton, N. C.
Jones, F. H.	Fr. M. E.	2232 Circle Dr.	Raleigh, N. C.
Jones, J. D.	Fr. Ag.	223 Forest Rd.	Blantyre, N. C.
Jones, J. S., Jr.	Fr. E. E.	115 South, Box 3515	New Bern, N. C.
Jones, R. G.	Fr. C. E.	318 South, Box 3582	Fayetteville, N. C.
Jones, R. L., Jr.	So. Ag. Ed.	115 Chamberlain St.	Greensboro, N. C.
Jones, T. C., Jr.	So. For.	919 W. Johnson St.	Asheville, N. C.
Jones, T. R., Jr.	Jr. Ch. E.	W. Cabarrus St.	Roseboro, N. C.
Jones, W. B.	Jr. C. E.	211 1911, Box 3751	Haw River, N. C.
Jones, W. L.	Sr. Tex.	Cafeteria, Box 5133	Woodruff, S. C.
Jones, W. M., Jr.	Sr. Con. E.	2513 Clark Ave.	Wilson, N. C.
Jones, W. W.	Sr. Tex. Mgt.	10 Enterprise St.	Greensboro, N. C.
Jordan, G. H.	So. Ag. Ed.	Box 54, Cary.	Cary, N. C.
Jordan, H. L., Jr.	Fr. E. E.	203 6th, Box 3251	Elm City, N. C.
Joyner, B. F.	Jr. Ch. E.	15 Maiden Lane	Spring Hope, N. C.
Joyner, J. B.	Jr. Chem.	137 1911, Box 3737	Fuquay Springs, N. C.
Kahn, H.	So. Tex.	314 1911, Box 3794	Asheville, N. C.
Kalaf, C. A., Jr.	Fr. Aero. E.	307 4th, Box 3122	Lumberton, N. C.
Kaley, P. D.	Fr. Tex. Mfg.	107 5th, Box 3207	Scranton, Pa.
Kareiva, V. V.	Sr. For.	223 1911, Box 3763	Scranton, Pa.
Karlman, M. M.	So. For.	206 7th, Box 3338	Newark, N. J.
Karres, J. M.	Fr. Ind. E.	102 6th, Box 3238	Charlotte, N. C.
Kasey, V. F.	Jr. Ch. E.	A-301 Boylan Apts.	Greenville, N. C.
Katz, J. L.	Sr. Ch. E.	116 Groveland Ave.	Morganton, N. C.
Kaufman, S.	So. Ag.	215 7th, Box 3347	New York, N. Y.
Kayler, J. F.	So. Ag. Ec.	218 Hillcrest Rd.	Asheville, N. C.
Kearns, E. D.	So. Tex. W. & D.	2310 Hillsboro St.	Greensboro, N. C.
Kearns, T. C.	Fr. Ag.	106 1911, Box 3706	Pleasant Garden, N. C.
Keene, W. M., Jr.	Fr. Ag. Ed.	326 South, Box 3590	Coats, N. C.
Keller, W. McC.	Fr. M. E.	2222 Circle Dr.	Raleigh, N. C.
Kelly, J. W.	Grad. Ag.		
Kennedy, F. R., Jr.	So. M. E.	Power Plant, Box 5241	
Kennedy, J. H.	So. M. E.	Power Plant, Box 5241	Waynesville, N. C.
Kennedy, W. H.	Fr. Cer. E.	3306 Hillsboro St.	Raleigh, N. C.
Kenyon, B. W., Jr.	Fr. Ag. Ec.	404 Dixie Trail	Raleigh, N. C.
Kerr, A. H., Jr.	Fr. M. E.	2412 Everett Ave.	Kerr, N. C.
Keyes, F. V.	Fr. M. E.	319 7th, Box 3385	Lenoir, N. C.
Keys, C. P.	Fr. E. E.	2407 Clark Ave.	Winston-Salem, N. C.
Keys, R. C.	Jr. Ind. Mgt.	232 7th, Box 3364	Washington, N. C.
Killam, G. R., Jr.	Sr. Ch. E.	234 1911, Box 3774	E. Orange, N. J.
Killeri, M. R.	So. For.	1709 Hillsboro St.	Pittston, Pa.
King, A. C.	Sr. Tex. Mgt.	217 1911, Box 3757	Littleton, N. C.
King, C. D.	Sr. Cer. E.	324 7th, Box 3390	Wilmington, N. C.
King, E. V.	Fr. Aero. E.	332 7th, Box 3398	Burlington, N. C.
King, G. G.	Fr. Cer. E.		Raleigh, N. C.
King, G. S.	Fr. For.	201 South, Box 3533	Glen Ridge, N. J.
King, J. C.	Fr. Ag.	Brooks Ave.	Laurinburg, N. C.
King, J. M.	So. Ag. Ec.	209 Park Ave.	Clinton, N. C.
King, J. W.	Fr. Ch. E.	117 7th, Box 3317	Tillery, N. C.
King, T. L.	Sr. Ag. Ed.	20 Bagwell Ave.	Turkey, N. C.
Kirby, B. M.	Fr. Ag.	311 Hillcrest Rd.	Mullico Hill, N. J.
Kirby, S. J., Jr.	Fr. Ag.	2820 Clark Ave.	Raleigh, N. C.
Kirkland, C. W., Jr.	Jr. E. E.	303 7th, Box 3369	Bellaire, O.
Kirkman, C. H., Jr.	Fr. Ag.	104 South, Box 3504	Pleasant Garden, N. C.
Kirkman, J. V.	Jr. Tex. Mfg.	2702 Hillsboro St.	Durham, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Kirkman, L. E.	Fr. M. E.	1806 Hillsboro St.	Burlington, N. C.
Kiser, D. W.	So. Ag. Ed.	2316 Hillsboro St.	Bessemer City, N. C.
Kizer, G. H.	So. E. E.	213 Woodburn Rd.	Rhodhiss, N. C.
Kluttz, M. J., Jr.	Jr. C. E.	2721 Leesville Rd.	Raleigh, N. C.
Knott, B. R.	Jr. Ind. E.	214 1911, Box 3754.	Wendell, N. C.
Knott, L. H.	Jr. E. E.	323 1911, Box 3803.	Oxford, N. C.
Knowlton, N. W.	Fr. M. E.	13 South, Box 3609.	Charlotte, N. C.
Koella, E., Jr.	So. Tex.	21 Enterprise St.	Rockford, Tenn.
Kolarik, T. M.	So. Ch. E.	121 7th, Box 3321.	Pittsburgh, Pa.
Koon, W. F.	Jr. Tex. Mfg.	203 1911, Box 3743.	Hickory, N. C.
Kramer, F. K., Jr.	Fr. M. E.	310 5th, Box 3234.	Elizabeth City, N. C.
Kreimer, B. L.	Fr. Ind. Arts.	116 Groveland Ave.	New York, N. Y.
Krochmal, A.	Fr. Ag.	302 7th, Box 3368.	New York, N. Y.
Kugler, C. B.	Fr. For.	310 5th, Box 3234.	Washington, N. C.
Kuhns, C. D.	So. For.	1710 Hillsboro St.	Kutztown, Pa.
Kurfels, G. J., Jr.	Grad. C. E.		Jersey City, N. J.
Kuzma, P. J.	Jr. H. S. T.	Gymnasium, Box 5252.	Toledo, O.
Lackey, E. G.	Jr. Ch. E.	2408 Stafford Ave.	Hiddenite, N. C.
Lackey, J. M.	So. Ag.	317 1911, Box 3797.	Hiddenite, N. C.
Lackey, R. O.	Jr. Ag.	219 1911, Box 3759.	Lenoir, N. C.
Lainof, R. I.	Jr. Ind. Arts.	Gymnasium, Box 5292.	Brooklyn, N. Y.
Lake, R. S.	Jr. Tex. Mgt.	1301 Hillsboro St.	Manhasset, N. Y.
Lamb, L. H., Jr.	Fr. Ag.	208 Ashe Ave.	Garland, N. C.
Lamb, R. V.	So. E. E.	125 Woodburn Rd.	Elizabeth City, N. C.
Lambe, C. M.	Jr. Cer. E.	413 Calvin Rd.	Raleigh, N. C.
Lambert, A. R.	Tex. C. & D.	2508 Vanderbilt Ave.	Greensboro, N. C.
La Morte, W. J.	Fr. C. E.	130 Hawthorne Rd.	New York, N. Y.
Lancaster, A. G.	Sr. Tex.	1120 Hillsboro St.	Henderson, N. C.
Lancaster, E. J., Jr.	Jr. Tex. Mfg.	329 1911, Box 3809.	Winston-Salem, N. C.
Land, C. E.	Fr. Aero. E.	313 7th, Box 3379.	Chadbourn, N. C.
Land, H. L.	So. M. E.	2008 Hillsboro St.	Hamlet, N. C.
Landon, R. H.	Fr. For.	111 6th, Box 3247.	Drexel Hill, Pa.
Landrum, R.	Sr. Tex. W. & D.	124 1911, Box 3724.	Mountain View, Mo.
Lane, R. H.	Fr. M. E.	303 South, Box 3567.	Henderson, N. C.
Lane, V. H.	Sr. Ind. Mgt.	321 1911, Box 3801.	Greensboro, N. C.
Lane, Z. B., Jr.	So. Tex.	103 Chamberlain St.	Wilson, N. C.
Langdon, J. D.	Jr. Cer. E.	125 Woodburn Rd.	Linden, N. C.
Langdon, J. L.	So. Ag.	105 7th, Box 3305.	Selma, N. C.
Langston, T. H.	Fr. Ag. Ed.	222 Park Ave.	Winterville, N. C.
Lankford, M. P.	Fr. E. E.	5 Dixie Dr.	Thomasville, N. C.
La Rivers, I., Jr.	Grad. Zool.		
Larkin, R. C.	Jr. Ag. Ec.	3 Maiden Lane.	Wheeling, Ill.
Lasley, J. B.	Jr. M. E.	Power Plant, Box 5241.	Greensboro, N. C.
Lassiter, R. A.	Fr. Ag. Ed.	221 Forest Rd.	Wagram, N. C.
Lathan, W. F.	Jr. Ag. Ed.	108 7th, Box 3308.	Monroe, N. C.
Laughlin, M. L.	Fr. Ag. Ed.	1720 Hillsboro St.	Tarboro, N. C.
Lawrence, M. O., Jr.	Jr. E. E.	337 1911, Box 3817.	Portsmouth, Va.
Laws, J. S.	Fr. M. E.	206 5th, Box 3218.	Henderson, N. C.
Layden, W. W.	Fr. E. E.	11 South, Box 3607.	Hertford, N. C.
Leach, W. J.	So. Ag.	225 Forest Rd.	Littleton, N. C.
Leake, T. C.	So. Tex.	201 7th, Box 3333.	Rockingham, N. C.
Leamer, R. W.	Grad. Soils.	2302 Hillsboro St.	Pine Castle, Fla.
Leary, W. T.	Sr. H. S. T.	110 Watauga, Box 3010.	Edenton, N. C.
Lebenstein, M. W.	Fr. Ag.	117 Groveland Ave., Box 5371.	New York, N. Y.
Ledbetter, H. D.	Sr. Tex.	2314 Hillsboro St.	Rockingham, N. C.
Ledbetter, H. W.	Jr. Ag. Ed.	219 1911, Box 3759.	Asheville, N. C.
Lee, H.	Fr. Ag.	327 7th, Box 3323.	Scott's Hill, N. C.
Lee, J. A.	So. Tex. Mgt.	5 Dixie Trail.	Dunn, N. C.
Lee, M. H.	So. M. E.	2306 Hillsboro St.	Raleigh, N. C.
Lee, R. D.	So. M. E.	2310 Hillsboro St.	Greensboro, N. C.
Lee, R. K.	So. For.	2209 1/2 Hope St.	Lugaff, S. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Leer, J. B.	Fr. Tex.	207 South, Box 3539	New York, N. Y.
Leer, K. A.	Fr. Tex.	207 South, Box 3539	Cliffside, N. J.
Leet, J.	Sr. Aero. E.	207 7th, Box 3339	Lakewood, N. J.
Letler, H. B.	Fr. Arch. E.	117 South, Box 3517	Albemarle, N. C.
Letier, W. N.	So. Tex.	334 1911, Box 3814	Albemarle, N. C.
Leggett, E. K.	Fr. Tex.	103 5th, Box 3203	Hobgood, N. C.
Le Gwin, J. H.	Fr. M. E.	126 South, Box 3526	Wilmington, N. C.
Lehman, P. H.	Fr. Ch. E.	215 South, Box 3547	Winston-Salem, N. C.
Lemons, C. W.	H. S. T.		Troy, N. C.
Lenkowsky, E.	Jr. Biol.	315 1911, Box 3795	Long Island, N. Y.
Lennon, C. P.	Fr. Ag.	6 South, Box 5351	Merchantville, N. J.
Leonard, F. O.	Fr. C. E.	113 Watauga, Box 3013	Welcome, N. C.
Leonard, W. H.	Fr. Ch. E.	113 Watauga, Box 3013	Lexington, N. C.
Lewis, B. E.	Fr. M. E.	411 Kinsey St.	Raleigh, N. C.
Lewis, G. E.	Fr. Aero. E.	302 5th, Box 3226	Rocky Mount, N. C.
Lewis, L. G.	Fr. Cer. E.	208 Ashe Ave.	Chadbourn, N. C.
Lewis, M. G.	Fr. E. E.	221 South, Box 3553	Fairmont, N. C.
Lewis, R. A.	So. Ch. E.	1801 Glenwood Ave.	Raleigh, N. C.
Liles, A. E.	Fr. Ag. Ed.	College Court Apt. 5	Littleton, N. C.
Lilly, H. M., Jr.	So. Ind. E.		
Lindau, W. E.	So. For.	2224 Hillsboro St.	New York, N. Y.
Lindsey, E. LeR.	Fr. Ind. E.	115 Woodburn Rd.	Draper, N. C.
Lindsey, W. L.	Fr. Tex.	325 7th, Box 3391	Galax, Va.
Lineberry, P. F.	Jr. Ch. E.	School for Blind	Raleigh, N. C.
Linkhaw, W. D.	So. E. E.	213 Woodburn Rd.	Lumberton, N. C.
Linn, G. M.	Fr. Tex.	327 South, Box 3591	Landis, N. C.
Lippard, G. H.	Fr. Cer. E.	331 South, Box 3595	Winston-Salem, N. C.
Lipschutz, D.	Grad. C. E.	116 Groveland Ave.	Belle Harbor, N. Y.
Little, B. L.	Fr. Tex.	16 South, Box 3612	Ayden, N. C.
Little, W. P.	Sr. C. E.	1408 Hillsboro St.	Catawba, N. C.
Livera, A. L.	Sr. E. E.	6 Ferndell Lane	New York, N. Y.
Lockhart, C. H.	Fr. Ag. E.	8 South, Box 3607	Durham, N. C.
Lockhart, E. M.	So. Ch. E.	220 1911, Box 3760	Hillsboro, N. C.
Lockhart, J. C., Jr.	Jr. E. E.	2241 Circle St.	Raleigh, N. C.
Long, H.	Fr. Ag. Ed.	4 College Court, Box 5261	Blount's Creek, N. C.
Long, J. B.	Fr. Ch. E.	311 South, Box 3575	Morehead City, N. C.
Long, J. G., Jr.	Fr. Ag. E.	109 6th, Box 3245	Seaboard, N. C.
Longest, B. B.	Fr. Con. E.	21 Enterprise St.	Rocky Mount, N. C.
Loos, R. A.	Jr. Aero. E.	1709 Hillsboro St.	Haddon Heights, N. J.
Lopez, N. W.	Fr. M. E.	1806 Hillsboro St.	Ft. Bragg, N. C.
Lorek, J. P.	Sr. M. E.	228 7th, Box 3360	Castle Hayne, N. C.
Losick, A. I.	Jr. Ch. E.	116 Groveland Ave.	W. New York, N. J.
Lovelace, E. K.	So. E. E.	6 Ferndell Lane, Box 5593	New Bern, N. C.
Lovelace, W. M.	Fr. M. E.	118 South, Box 3518	Macclesfield, N. C.
Lovvorn, R. L.	Grad. Ag.		
Lowdermilk, A. J.	Sr. Ch. E.	227 7th, Box 3359	Mt. Gilead, N. C.
Lowery, C. C.	Jr. Ag. Ed.	407 Dixie Trail, Box 5234	Collettsville, N. C.
Lozier, P. J.	So. Ag.	206 7th, Box 3338	Grantwood, N. J.
Lucas, J. P., Jr.	Fr. Ch. E.	115 Hawthorne Rd.	Ft. Bragg, N. C.
Luck, S. L., Jr.	So. Arch. E.	1621 Park Dr.	Greensboro, N. C.
Ludwig, V. H.	So. Aero. E.	c o G. L. Newton	Schenectady, N. Y.
Lull, H. W.	Sr. For.	2316 Hillsboro St.	Asheville, N. C.
Lummis, W. B.	So. Ch. E.	1012 Harvey St.	Penn's Grove, N. J.
Lutterlok, J. M.	Fr. Tex.	208 6th, Box 3256	Asheboro, N. C.
Lyday, R. J.	So. Ag. Ed.	120 1911, Box 3720	Brevard, N. C.
Lyerly, G. L.	Fr. Tex.	122 South, Box 3522	Hickory, N. C.
Lyerly, P., Jr.	Sr. Ag.	115 1911, Box 3715	Granite Quarry, N. C.
Lynch, M. K.	Fr. Tex. Mfg.	106 South, Box 3506	Caroleen, N. C.
Lyon, J. V.	Jr. For.	131 1911, Box 3731	Crudmoor, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
McCabe, R. P.	So. Cer. E.	Rt. 1, Raleigh	Raleigh, N. C.
McCall, J. E.	Jr. Ag. Ec.	301 Watauga, Box 3037	Ellerbe, N. C.
McCary, C. E.	Fr. Ch. E.	220 Cox Ave.	Raleigh, N. C.
McCauley, L. A., Jr.	Fr. Ch. E.	221 Forest Rd.	Burlington, N. C.
McClurd, J. R., Jr.	Jr. Arch. E.	309 Watauga, Box 3045	Shelby, N. C.
McClure, W. W.	So. Ag. Ed.	110 Cox Ave.	Charlotte, N. C.
McCollum, D. L.	So. Tex.	220½ Cox Ave.	Wentworth, N. C.
McCoy, J. G.	Fr. For.	1720 Hillsboro St.	Banner Elk, N. C.
McCoy, R. L.	Fr. Arch.	103 South, Box 3503	New Bern, N. C.
McDaniel, Z. E.	So. Ag. Ec.	19 South, Box 3615	Clinton, N. C.
McDonald, S. R.	Fr. Ag.	524½ N. Wilmington St.	Raleigh, N. C.
McDowell, M. P.	Fr. Arch. E.	308 5th, Box 3232	Goldsboro, N. C.
McDowell, R. E., Jr.	Fr. An. Hus.	223 South, Box 3555	Charlotte, N. C.
McEarchern, D. R.	Jr. Tex. Mgt.	1922 Hillsboro St.	Concord, N. C.
McGinnis, J.	So. Ag. Ed.	322 7th, Box 3388	Lincolnton, N. C.
McIver, J. E., Jr.	Fr. For.	117 South, Box 3517	Clearwater, Fla.
McIver, W. E.	Fr. Tex.	207 5th, Box 3219	Greensboro, N. C.
McKay, W. A., Jr.	So. Ag. Ed.	2402 Everett Ave., Box 5531	St. Pauls, N. C.
MacKenzie, R.	Jr. Tex.	2405 Clark Ave.	Wilmington, N. C.
McKinnon, A.	So. Arch. E.	519 N. Blount St.	Raleigh, N. C.
McKinney, L. P.	Fr. For.	223 Forest Rd.	Asheville, N. C.
McLaughlin, W. S.	So. Cer. E.	120 1911, Box 3720	Gloucester, Mass.
McLaurin, D. L.	Jr. Ag. E.	214 Watauga, Box 3032	Rowland, N. C.
McLean, D. H.	Sr. E. E.	102 1911, Box 3702	Bladenboro, N. C.
McLean, D. W.	Sr. M. E.	115 Woodburn Rd.	Asheville, N. C.
McLean, J. C.	So. Tex.	314 Park Ave.	Rockingham, N. C.
McLean, J. L., Jr.	Jr. Ind. Mgt.	318 W. Edenton St.	Raleigh, N. C.
McLeod, E. W.	Fr. Tex.	129 South, Box 3529	Carthage, N. C.
McLeod, W. A.	So. Ag. Ed.	2813 Mayview Rd.	Taylorsville, N. C.
McManis, T. J., Jr.	Jr. For.	106 1911, Box 3706	Pleasant Garden, N. C.
McMichael, D. J.	So. For.		Upper Derby, Pa.
McMillan, E. C.	Fr. C. E.	212 South, Box 3544	Marion, N. C.
McNeely, R. T.	So. Cer. E.	114 1911, Box 3714	Mooresville, N. C.
McNeill, H. M.	Sr. Tex. Mgt.	201 Watauga, Box 3019	Rowland, N. C.
McPhail, R. V.	Jr. Tex.	7 Maiden Lane	Hamlet, N. C.
McPhaul, H. W.	So. Ag.	212 7th, Box 3344	Red Springs, N. C.
McPherson, H. G.	Fr. Ag.	321 South, Box 3585	Camden, N. C.
McPherson, W. W.	Sr. Ag. Ec.	102 1911, Box 3702	Mebane, N. C.
MacRae, G. D.	Sr. An. Hus.	500 Whitaker Mill Rd.	Wilmington, N. C.
McRorie, B. F.	Fr. E. E.	122 South, Box 3522	Hickory, N. C.
McSwain, H. R.	Jr. Tex. W. & D.	201 5th, Box 3213	Shelby, N. C.
Madero, J. T.	So. Tex.	216 1911, Box 3756	Parras, Coah, Mex.
Magrath, G. A.	Fr. For.	316 7th, Box 3382	East Norwalk, Conn.
Mahler, G. C.	So. C. E.	309 1911, Box 3789	Wilmington, N. C.
Major, H. W.	Fr. Arch. E.	322 South, Box 3586	Sanford, N. C.
Malkovsky, G. L.	Fr. Ch. E.	6 South, Box 3602	Floral Park, N. Y.
Malone, H. B.	Grad. Tex.	2314 Hillsboro St.	Chester, S. C.
Mann, G. P.	Fr. Ch. E.	230 South, Box 3562	Ocracoke, N. C.
Mann, M. G., Jr.	So. Ag. Ec.	2020 St. Mary's St.	Raleigh, N. C.
Mann, O. W.	Jr. Tex.	Gymnasium, 2, Box 5402	Albemarle, N. C.
Mann, S. N.	So. Ag.	115 Woodburn Rd.	Asheville, N. C.
Mann, T. J., Jr.	Fr. Ag.	332 South, Box 3596	Lake Landing, N. C.
Manning, A. D.	So. Ag.	104 S. Dawson St.	Winterville, N. C.
Mark, L.	Sr. H. S. T.	230 7th, Box 5314	New York, N. Y.
Marsh, G. W., Jr.	Jr. Ag.	103 Chamberlain St.	Bath, N. C.
Marsh, R. S.	Jr. Ag. E.	101 Watauga, Box 5381	Monroe, N. C.
Marshall, W. E.	Fr. Cer. E.	325 E. Edenton St.	Raleigh, N. C.
Marshburn, W. J., Jr.	Sr. For.	102 1911, Box 3702	Burgaw, N. C.
Martin, A. F.	Fr. E. E.	311 Hillcrest Rd.	Jackson, N. C.
Martin, Hartwell C.	Jr. For.	235 1911, Box 3775	Roanoke, Va.
Martin, H. C.	Fr. Ag. Ec.	104 6th, Box 3240	Hayesville, N. C.
Martin, J. F.	So. For.	2308 Hillsboro St.	Wadesboro, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Martin, R.	Fr. Tex.	123 Chamberlain St.	High Point, N. C.
Martin, W. H.	Jr. Ch. E.	2407 Clark Ave.	Winston-Salem, N. C.
Mask, F. E.	Grad. Ch. E.	2302 Hillsboro St.	Raleigh, N. C.
Mason, M. H.	Jr. Tex.	340 1911, Box 3820.	Mebane, N. C.
Massa, R. J.	Sr. H. S. T.	2202 Hillsboro St.	Bellaire, O.
Massengill, P. R.	Grad. Zool.	Rt. 4, Raleigh, N. C.	Raleigh, N. C.
Massengill, L. E.	Fr. C. E.	133 1911, Box 3733.	Four Oaks, N. C.
Massey, J. T.	Sr. E. E.	531 Newbern Ave.	Raleigh, N. C.
Mastrolia, F. F.	Sr. H. S. T.	234 7th, Box 5262.	East Boston, Mass.
Matheney, W. V.	Jr. Tex. Mgt.	1709 Hillsboro St., Box 5212.	Pulaski, Va.
Mathewson, K.	So. C. E.	2704 Bedford Ave.	Raleigh, N. C.
Matson, P.	So. For.	2209½ Hope St.	Norfolk, Va.
Matthes, R. L.	So. Ag.	117 Watauga, Box 3017.	Clinton, N. C.
Mattocks, T. C.	So. Ag.	301 Park Ave.	Gillett, N. C.
Mattocks, W. B.	So. Tex. Mfg.	118 7th, Box 3318.	Eagle Springs, N. C.
Mattox, R. H.	Fr. M. E.	4 E. Dixie Dr.	Durham, N. C.
Mattson, A. T.	So. Aero. E.	2513 Clark Ave.	East Hampton, N. Y.
Maultsby, J. D.	So. Ch. E.	3 Gymnasium, Box 5402.	Kernersville, N. C.
Mauney, J. M.	So. Tex.	312 Watauga, Box 3048.	Lincolnton, N. C.
Mauney, W. A.	Sr. Tex. Mfg.	1301 Hillsboro St.	Lincolnton, N. C.
Maupin, A.	Sr. Cer. E.	Clark Ave.	Raleigh, N. C.
May, G. H.	Fr. Ag.	320 7th, Box 3368.	North Berger, N. J.
May, S. R., Jr.	Jr. Tex.	222 7th, Box	Spring Hope, N. C.
May, W. N.	Fr. M. E.	229 South, Box 3561.	Lenoir, N. C.
Mayo, S. C.	Grad. Ag. Ec.		
Mayton, R. L.	Sr. H. S. T.	Cary, N. C.	Cary, N. C.
Meachem, J. M.	Fr. Tex.	211 1911, Box 3751.	Burlington, N. C.
Meadows, J. A.	Jr. Ag.	1301 Hillsboro St.	New Bern, N. C.
Meadows, M. E.	Fr. Ag.	228 South, Box 3560.	Pollocksville, N. C.
Meadows, W., Jr.	Fr. Ch. E.	1301 Hillsboro St.	New Bern, N. C.
Medford, M. N.	So. Ch. E.	c o M. C. Grant, Box 5243.	Waynesville, N. C.
Means, H. D.	So. Ch. E.	21 Enterprise St.	Concord, N. C.
Means, R. P.	So. M. E.	225 7th, Box 3357.	Trenton, N. J.
Mehaffey, G. W.	Jr. Ind. Arts.	324 1911, Box 3804.	Hendersonville, N. C.
Melton, J. S.	Sr. Ag.	Greenhouse, Box 5254.	Hendersonville, N. C.
Merritt, P. D.	Jr. Tex.	117 Park Ave.	Rose Hill, N. C.
Messersmith, H. S., Jr.	Fr. Tex.	306 4th, Box 3132.	Montclair, N. J.
Meunier, F. A., Jr.	So. M. E.	216 Watauga, Box 3034.	Merchantville, N. J.
Michael, J. E.	So. For.	117 1911, Box 3717.	Wadesboro, N. C.
Michael, R. L.	Fr. Ag. Ed.	4 South, Box 3600.	Wadesboro, N. C.
Mickle, H. L.	Fr. Tex. C. & D.	1709 Hillsboro St.	Charlotte, N. C.
Milgram, H. M.	Fr. Ag. Ed.	1712 Park Dr.	Battleboro, N. C.
Milholland, J. L., Jr.	So. E. E.	1922 Hillsboro St.	Statesville, N. C.
Milks, L. E., Jr.	So. Tex. Mfg.	135 1911, Box 3735.	Asheboro, N. C.
Miller, A. E.	Fr. Tex.	12 N. West Street.	Orbisonia, Pa.
Miller, C. L.	So. M. E.	203 7th, Box 3335.	Rockwell, N. C.
Miller, D. C.	Jr. Ag. Ed.	224 1911, Box 3764.	Warsaw, N. C.
Miller, F. E., Jr.	So. Ag.	1628 Park Dr.	Raleigh, N. C.
Miller, J. C.	Jr. Ch.	2407 Clark Ave.	Devon, Conn.
Miller, J. F.	So. Ag.	191 Chamberlain St.	Raleigh, N. C.
Miller, K. D.	Fr. Aero. E.	322 South, Box 3586.	Tarboro, N. C.
Miller, R. O.	Fr. Ch. E.	211 South, Box 3543.	Gastonia, N. C.
Millhouse, S. R.	Fr. Cer. E.	206 5th, Box 3218.	Wilson, N. C.
Milloway, W. H., Jr.	Jr. E. E.	2513 Clark Ave.	Greensboro, N. C.
Mills, R. A., Jr.	Fr. M. E.	328 South, Box 3592.	Greensboro, N. C.
Millsaps, E. S., Jr.	Jr. An. Hus.	331 1911, Box 3811.	Asheboro, N. C.
Mincey, L. T.	Fr. For.	103 Harrison Ave.	Raleigh, N. C.
Mintz, LeR.	Sr. At. Ed.	Y. M. C. A., Box 5276.	Shallotte, N. C.
Misenheimer, F. L.	So. Tex.	322 1911, Box 3309.	
Misenheimer, L., Jr.	Fr. E. E.	5 R 322 North St.	Salisbury, N. C.
Mitchell, J. S.	Fr. Ag. E.	303 5th, Box 3227.	Walnut Cove, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Mitchell, R. H.	So. M. E.	2931 Hillsboro St.	Raleigh, N. C.
Mitchiner, J. A.	So. Ag. E.	302 Watauga, Box 3038.	Youngsville, N. C.
Mobley, J. L.	So. C. E.	625 Hillsboro St.	Williamston, N. C.
Montague, G. A.	So. Ch. E.	Rt. 5, Raleigh	Raleigh, N. C.
Montague, I. B.	Fr. M. E.	208 5th, Box 3220.	Goldsboro, N. C.
Moore, A. L.	Fr. C. E.	215 Park Ave.	Macclesfield, N. C.
Moore, A. M.	Jr. Tex.	504 Oakwood Ave.	Raleigh, N. C.
Moore, C. N.	Jr. M. E.	212 Watauga, Box 3030.	Washington, N. C.
Moore, C. T.	Jr. Tex. C. & D.	119 Park Ave.	Rutherfordton, N. C.
Moor, E. H.	Fr. Ind. Arts.	305 5th, Box 3229.	Lakewood, N. J.
Moore, E. P.	Fr. Tex. Mfg.	203 5th, Box 3215.	Bynum, N. C.
Moore, J. E., Jr.	Sr. Ch. E.	603 Holt St.	Raleigh, N. C.
Moore, J. F., Jr.	Fr. E. E.	129 South, Box 3529.	Spencer, N. C.
Moore, W. B.	Fr. E. E.	307 5th, Box 3231.	Milton, N. C.
Moore, W. H.	Fr. For.	106 6th, Box 3242.	Asheville, N. C.
Moore, W. S.	Sr. Ag. Ed.	2806 Hillsboro St.	Apex, N. C.
Moorehead, J. P.	Sr. For.	109 South, Box 3509.	Greensboro, N. C.
Moran, T. F.	Fr. Ind. E.	109 1911, Box 3709.	Westfield, N. J.
Moras, L. P.	Fr. E. E.	522 Oakwood Ave.	Raleigh, N. C.
Morgan, H. L.	Sr. E. E.	318 Watauga, Box 3054.	Canton, N. C.
Morris, H. D.	Sr. Soils.	402 Horne St.	Raleigh, N. C.
Morris, J. B.	Fr. For.	2818 Bedford Ave., Box 5552.	Asheville, N. C.
Morris, W. F., Jr.	Fr. M. E.	2509 Vanderbilt Ave.	Raleigh, N. C.
Morrison, E. B.	So. Tex.	327 1911, Box 3807.	Charlotte, N. C.
Morrison, J. McK.	So. For.	2220 Hillsboro St.	Beaufort, N. C.
Morrison, R. C.	Fr. Ag.	c/o Dr. C. D. Grinnell, Dixie Trail	Statesville, N. C.
Morrison, T. F.	Jr. Tex. Mfg.	21 Enterprise St.	Concord, N. C.
Morrison, W. B.	Fr. C. E.	107 5th, Box 3207.	Concord, N. C.
Mosely, C. L., Jr.	Jr. Aero. E.	617 W. Jones St.	Raleigh, N. C.
Mosely, M. A.	Grad. Chem.		
Moss, F. G.	So. Arch. E.	2412 Everett Ave.	Washington, N. C.
Moss, S. B.	Jr. Chem.	Y. M. C. A., Box	Albemarle, N. C.
Mullen, H. P.	Sr. Tex.	210 Watauga, Box 3028.	Lincolnton, N. C.
Mullen, L. A.	So. For.	210 Watauga, Box 3028.	Lincolnton, N. C.
Munyan, J. I.	Jr. Tex. Mfg.	2729 Everett Ave.	Oneonta, N. Y.
Murchison, K.	So. Ag.	231 1911, Box 3771.	Mocksville, N. C.
Murdoch, R. W.	Sr. An. Hus.	2316 Hillsboro St.	Troutman, N. C.
Murdoch, W. S.	Fr. Tex.	110 5th, Box 3210.	Salisbury, N. C.
Murphy, G. E.	Grad. Ch.		
Murphy, G. R., Jr.	Jr. Tex.	2008 Hillsboro St.	Asheville, N. C.
Murphy, J.	So. Tex. Mgt.	223 Hawthorne Rd.	Asheville, N. C.
Murphy, R. E.	Fr. For.	312 7th, Box 3378.	New York, N. Y.
Murray, J. L.	Jr. Aero. E.	124 South, Box 3524.	Newton, N. C.
Murray, J. P., Jr.	Fr. Ag.	2603 Clark Ave., Box 5253.	Burgaw, N. C.
Muse, J. B.	So. Dairy	1912 Reeves Dr.	Carthage, N. C.
Musgrave, J. W.	Fr. Ch. E.	322 7th, Box 3388.	Pikeville, N. C.
Musso, B. J.	Jr. Tex.	118 Watauga, Box 3018.	Walsenburg, Colo.
Myers, M. G., Jr.	Sr. E. E.	2004 Hillsboro St., Box 5565.	Winston-Salem, N. C.
Myers, R.	Sr. M. E.	123 1911, Box 3723.	Asheville, N. C.
Nakoneczny, M. W.	So. M. E.	140 1911, Box 3740.	Burgaw, N. C.
Nash, J. F., Jr.	Fr. Ag.	231 South, Box 3563.	St. Pauls, N. C.
Nass, Harold	Jr. Tex.	223 7th, Box 3355.	New York, N. Y.
Needham, J. F.	So. For.	201 Dixie Drive	Raleigh, N. C.
Neelly, J. V.	Fr. Tex.	105 5th, Box 3205.	Greensboro, N. C.
Nelley, J. W.	Fr. M. E.	330 7th, Box 3396.	Passaic, N. J.
Nelson, H. M.	Fr. C. E.	1702 Hillsboro St.	Sray, N. C.
Nelson, R. M.	Sr. For.	3201 Hillsboro Rd.	Chambersburg, Pa.
Nelson, S. E.	Fr. Tex.	204 Watauga, Box 3022.	Grifton, N. C.
Nesbit, B. F.	So. Ag. Ed.	219 1911, Box 3759.	Fletcher, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Newbern, G. H.	So. Tex.	105 Harrison Ave.	Powells Point, N. C.
Newbold, J. S.	Jr. M. E.	129 W. Park Drive	Raleigh, N. C.
Newlin, J. B.	Sr. Ag.	125 Glenwood Ave.	Mebane, N. C.
Newman, Leon S.	Sr. C. E.	2513 Clark Ave.	Virgilina, Va.
Newnam, J. A.	So. C. E.	111 Berkshire	Leaksville, N. C.
Newsome, R. N.	Sr. E. E.	125 Woodburn Rd.	La Grange, N. C.
Nichols, E. B., Jr.	Jr. M. E.	317 Watauga, Box 3053	Moorestown, N. J.
Nichols, J. H.	Grad. E. E.		
Nicholson, J. F.	Fr. M. E.	2307 Lake Drive	Raleigh, N. C.
Nicks, W. W.	Sr. C. E.	101 5th, Box 3201	Rockingham, N. C.
Nielson, L. B.	Fr. Ag. Ec.	204 5th, Box 3216	Henderson, N. C.
Nifong, C. A.	Fr. E. E.	104 5th, Box 3204	Winston-Salem, N. C.
Nigro, J.	So. For.		Brooklyn, N. Y.
Nivens, W. J.	Fr. Con. E.	210 Woodburn Road	Charlotte, N. C.
Nobles, S. M.	Fr. Ag. Ed.	222 Park Ave.	Winterville, N. C.
Nooe, H. R., Jr.	Jr. E. E.	217 Watauga, Box 3035	Pittsboro, N. C.
Norman, G. E.	Sr. Tex. Mfg.	307 1911, Box 3787	Charlotte, N. C.
Novick, W. C.	Jr. M. E.	237 7th, Box 5191	Frackville, Pa.
Novitzkie, A. A., Jr.	So. For.	222 7th, Box 3354	Maspeth, N. Y.
Nowell, C. M.	Fr. C. E.	1107 Mordecai Drive	Wendell, N. C.
Nunalee, W. M.	So. Ch. E.	17 Enterprise St.	Burgaw, N. C.
Nutt, C. C.	Fr. E. E.	Morrisville, N. C.	Morrisville, N. C.
O'Brian, J. M.	So. Ag.	12 Enterprise St.	Oxford, N. C.
Odegaard, J. E.	Fr. Tex. Mfg.	311 7th, Box 3377	Montclair, N. J.
Odum, W. E., Jr.	So. For.	320 1911, Box 3800	Asheville, N. C.
Odum, D. L.	Fr. Ag. Ed.	326 South, Box 3590	Coats, N. C.
Olive, D. M.	So. Ch. E.	2316 Hillsboro St.	Mt. Gilead, N. C.
Olive, P. J.	Fr. For.	1408 Glenwood Ave.	Raleigh, N. C.
Oliver, J. H., Jr.	Fr. Ag.	302 6th, Box 3262	Greensboro, N. C.
Oliver, R. L.	Jr. Biology	2627 Fairview Road	Raleigh, N. C.
Olivera, F. T.	Grad. Pl. Path.		
O'Neal, J. T., Jr.	Fr. C. E.	304 6th, Box 3264	Sanford, N. C.
Orr, W. M.	Fr. M. E.	139 1911, Box 3739	Washington, N. C.
Osborne, W. M.	Sr. Ag. Ed.	8 Ferndell Lane	Stanfield, N. C.
Osgood, W. J.	Fr. M. E.	128 1911, Box 3728	Wellesley Hills, Mass.
Overby, B. L.	Jr. Tex.	215 Park Ave.	Reidsville, N. C.
Overcash, J. P.	Sr. Hort.	338 1911, Box 3818	Kannapolis, N. C.
Overcash, R. L.	So. Ch. E.	338 1911, Box 3818	
Overman, H. S., Jr.	Sr. M. E.	126 1911, Box 3726	Elizabeth City, N. C.
Owen, E. B.	So. Ind. E.	131 Hawthorne Road	Raleigh, N. C.
Owen, Margaret J.	Grad. Rur. Soc.	131 Hawthorne Road	Raleigh, N. C.
Owens, H. A.	Jr. Ch. E.	6 Ferndell Lane	Rocky Mount, N. C.
Ownley, R. E.	Fr. E. E.	115 South, Box 3515	Elizabeth City, N. C.
Pace, B. S.	So. Ch. E.	2308 Hillsboro St.	Raleigh, N. C.
Page, C. L.	Jr. For.	336 1911, Box 3816	Fairmont, N. C.
Page, D. D.	Jr. E. E.	Route 5	Raleigh, N. C.
Page, W. J.	So. Ag.	8 Ferndell Lane	Autryville, N. C.
Palmer, J. H.	Fr. Ag.	210 5th, Box 3222	Clyde, N. C.
Palmer, J. L.	Fr. Ag.	128 South, Box 3528	Franklin, N. C.
Parcel, M. W.	Fr. Cer. E.	106 6th, Box 3242	Charlotte, N. C.
Park, E. D.	Fr. F. E.	3011 Hillsboro Road	Manson, N. C.
Parker, A. L.	So. Land. Arch.	1301 Hillsboro St.	Charlotte, N. C.
Parker, A. M.	Fr. Tex. Mgt.	126 N. McDowell St.	Raleigh, N. C.
Parker, D. C.	So. Ag.	125 Woodburn Road	Fountain, N. C.
Parker, E. G.	Fr. Ag.	118 South, Box 3518	Gibson, N. C.
Parker, J. D.	So. Ag. Ed.	117 Hillcrest Road	Murfreesboro, N. C.
Parker, W. F.	Jr. Ag. Ed.	232 1911, Box 3772	Gibson, N. C.
Parker, W. M.	Fr. Ag.	Gymnasium	Raleigh, N. C.
Parkin, J. E.	Jr. Ch. E.	225 1911, Box 3765	New Bedford, Mass.
Parkinson, C. R.	Sr. Ch. E.	318 1911, Box 3798	Fairhaven, Mass.
Parks, J. R.	So. C. E.	1810 W. Park Drive	Statesville, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Parks, T. F.	Jr. Tex.	2008 Hillsboro St.	Lenoir, N. C.
Parrish, E. B.	Jr. M. E.	555 Newbern Ave.	Raleigh, N. C.
Parrish, W. L.	Fr. Ag.	Route 6, Raleigh, N. C.	Otto, N. C.
Parrott, F. W.	Fr. Ch. E.	No. 5 College Court Apt.	Raleigh, N. C.
Parson, B. W.	Jr. E. E.	236 1911, Box 3776.	Roseboro, N. C.
Parsons, L. R., Jr.	Jr. Ch. E.	6 Ferndell Lane.	Burlington, N. J.
Paschal, B. E., Jr.	Fr. Cer. E.	308 4th, Box 3134.	Charlotte, N. C.
Paschal, F. A.	Fr. Cer. E.	305 South, Box 3569.	Siler City, N. C.
Pate, R. G.	So. Ag.	218 Cox Ave.	Gibson, N. C.
Pate, R. N.	Fr. M. E.-Aero.	105 4th, Box 3115.	Clinton, N. C.
Patrick, J. L.	Sr. Ag. Ec.	204 Watauga, Box 3022.	Grifton, N. C.
Patterson, A. L.	So. M. E.	301 1911, Box 3781.	Houstonville, N. C.
Patterson, R. B.	Fr. Ag.	Chamberlain St.	Mooresville, N. C.
Patton, J. D.	Jr. Ag.	201 6th, Box 3249.	Franklin, N. C.
Patton, W. H.	So. Ch. E.	2008 Hillsboro St.	Andrew, N. C.
Pavlovsky, Andrew J.	Fr. Ind. Arts.	233 7th, Box 5191.	Struthers, Ohio
Payne, R. J.	So. Tex. Mfg.	122 1911, Box 3722.	Kannapolis, N. C.
Payne, R. S.	Jr. Con. E.	138 1911, Box 3738.	Hertford, N. C.
Payne, W. M.	So. M. E.	2813 Mayview, R. F. D.	Taylorsville, N. C.
Peacock, W. A. J.	Jr. Tex.	129 Hillcrest Road.	Goldsboro, N. C.
Pearsall, D. W.	So. M. E.	140 1911, Box 3740.	Rocky Point, N. C.
Pearsall, M., Jr.	Jr. Ag. Ec.	320 1911, Box 3800.	Wilmington, N. C.
Pearson, H. L.	So. M. E.	113 7th, Box 3313.	Highlands, N. C.
Pearson, R. W.	So. Ag.	625 Hillsboro St.	Highlands, N. C.
Pearson, W. S.	Fr. Tex. C. and D.	204 South, Box 3536.	Charlotte, N. C.
Peatross, O. F.	Jr. Tex.	817 Brooklyn Ave.	Raleigh, N. C.
Pechin, F. W.	Fr. Ch. E.	117 Hillcrest Road.	Plainfield, N. J.
Peden, Fred T., Jr.	So. Cer. E.	115 Woodburn Road.	Canton, N. C.
Peele, S. J., Jr.	Sr. Tex. Mfg.	103 Chamberlain St.	Belhaven, N. C.
Peeler, D. M.	Fr. Ind. E.	202 4th, Box 3120.	Kings Mountain, N. C.
Peeler, G. B.	Grad. Tex.		
Peeler, M. R.	So. E. E.	220 Cox Ave.	Salisbury, N. C.
Pelletier, L. W., Jr.	Fr. E. E.	330 South, Box 3594.	Stella, N. C.
Pendergrass, W. R.	Fr. Ag.	128 South, Box 3528.	Franklin, N. C.
Pendleton, A. G., Jr.	Fr. M. E.	18 South, Box 3614.	Montclair, N. J.
Peninger, H. M.	So. Ch. E.	6 Ferndell Lane.	Concord, N. C.
Penland, D. T.	Fr. M. E.	211 South, Box 3543.	Franklin, N. C.
Penland, Glenn E.	Sr. Tex. W. and D.	50 1911, Box 3821.	Asheville, N. C.
Pennington, W. D.	Jr. E. E.	131 7th, Box 3331.	Nathans Creek, N. C.
Penny, R. C.	Fr. Tex.	Route No. 4.	Raleigh, N. C.
Perks, L.	So. For.	209 7th, Box 3341.	Brooklyn, N. Y.
Perry, E. R.	Sr. A. H.	13 Polk Hall, Box 5127.	Sugar Grove, N. C.
Perry, J. E.	Grad. Ag. Ed.	8 Ferndell Lane.	Durham, N. C.
Perry, K. E.	So. Ch. E.	Millbrook.	Millbrook, N. C.
Perry, L. L.	So. For.	213 7th, Box 3345.	Sanford, N. C.
Perry, R. W.	Fr. For.	302 South, Box 3566.	Quantico, Va.
Perry, Thomas E.	Fr. Ind. Arts.	508 Whitaker Mill Road.	Raleigh, N. C.
Perry, W. J.	So. E. E.	222 Park Ave.	Cofield, N. C.
Peters, C. E.	Jr. Ch. E.	2220 Hillsboro St.	Grafton, Mass.
Peterson, C. H.	Jr. For.	6 Ferndell Lane.	Leechburg, Pa.
Pharr, J. Y., Jr.	So. Tex. Mgt.	21 Enterprise St.	Concord, N. C.
Philbeck, T. E.	Jr. Ch. E.	316 Watauga, Box 5533.	Shelby, N. C.
Phillips, E. G.	Fr. M. E.	22 South, Box 3618.	Morehead City, N. C.
Phillips, E. J., Jr.	Fr. For.	229 South, Box 3561.	Andrews, N. C.
Phillips, J. W.	Fr. Ag.	301 Park Ave.	Mebane, N. C.
Phillips, W. F.	Fr. Ag.	109 7th, Box 3309.	Sanford, N. C.
Phillips, W. R., Jr.	Sr. E. E.	Route No. 3.	Raleigh, N. C.
Phillips, W. W.	Fr. M. E.	130 South, Box 3530.	Pinetops, N. C.
Phipps, R. J.	Fr. Tex.	330 7th, Box 3396.	Galax, Va.
Pickard, J. G.	Jr. Ch. E.	2402 Hillsboro St.	Wilmington, N. C.
Pickard, W. S.	Sr. Ind. Mgt.	6 Enterprise St.	Durham, N. C.
Picket, P. E.	Fr. Tex.	5 Dixie Trail.	Raleigh, N. C.
Picket, W. C.	Fr. For.	5 Dixie Trail.	Raleigh, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Pierce, Honoree	Sr. H. S. T.	122 Ashe Ave.	Apex, N. C.
Pierce, J. C., Jr.	Jr. A. H.	311 Watauga, Box 3047	Grassy Creek, N. C.
Pierce, W. H.	Grad. Ag. Ec.		
Pigue, R. W.	Fr. Cer. E.	132 South, Box 3532	Hamlet, N. C.
Piland, C. R.	Fr. Ag.	209 5th, Box 3221	Margarettsville, N. C.
Piland, J. E.	Jr. A. H.	221 1911, Box 3761	Margarettsville, N. C.
Piloseno, D. A.	Sr. H. S. T.	129 7th, Box 5272	Bellaire, Ohio
Pinto, D.	Fr. Ch. E.	101 4th, Box 3111	Long Beach, N. Y.
Pittman, J. W.	So. Ag. Ed.	220 Cox Ave.	Fairmont, N. C.
Pittman, P. R.	So. M. E.	111 1911, Box 3711	Maysville, N. C.
Pittman, R. L.	Sr. Ag. Ed.	201 1911, Box 3741	Fairmont, N. C.
Plaster, C. C.	Sr. Tex. C. and D.	108 Watauga, Box 3008	Hickory, N. C.
Plaster, J. C.	Jr. Ag. Ed.	324 1911, Box 3804	Hickory, N. C.
Pleasants, J. M.	Fr. M. E.	315 South, Box 3579	Greensboro, N. C.
Plummer, H. W.	Jr. For.	1301 Hillsboro St.	Asheville, N. C.
Poe, W. D.	Sr. Ag. Ec.	Box 284	Raleigh, N. C.
Polin, John K.	Fr. Ag.	125 Chamberlain St.	McKees Rocks, Pa.
Pollacek, H. J.	Fr. M. E.-Aero.	101 4th, Box 3111	Matawon, N. J.
Pollard, T. B.	Fr. Tex.	517 7th, Box 3383	Galax, Va.
Polley, R. G.	Fr. For.	1924 Sunset Drive	Rochester, Wis.
Pollock, D. M., Jr.	Jr. Tex. C. and D.	1922 Hillsboro St.	High Point, N. C.
Pollock, R. C.	Sr. E. E.	101 1911, Box 3701	Kinston, N. C.
Pollock, W. E.	So. Ag. Ed.	117 1911, Box 3717	Trenton, N. C.
Poole, D. R.	Grad. Ag.	Box 5243, College	Wadeville, N. C.
Poole, G. S.	Fr. E. E.	11 South, Box 3607	Winston-Salem, N. C.
Poole, J. R.	Fr. For.	316 7th, Box 3382	Rougemont, N. C.
Poole, R. E.	Fr. Ch. E.	Millbrook	Millbrook, N. C.
Poplin, H. M.	Fr. Tex.	218 N. Harrington St.	Cary, N. C.
Posten, J. H.	So. M. E.	113 7th, Box 3313	Atlantic Highlands
Poteat, J. C., Jr.	Fr. Ch. E.	103 6th, Box 3239	Lattimore, N. C.
Potter, A. D.	Jr. Tex. C. and D.	134 1911, Box 3734	Barium Springs, N. C.
Pou, J. W.	Sr. Ag.	309 South, Box 3573	Elmwood, N. C.
Powell, J. C.	Fr. Tex. Mfg.	301 Park Ave.	Burnville, N. C.
Powell, R. V.	Sr. M. E.	111 1911, Box 3711	Newport News, Va.
Power, J. T.	Jr. M. E.	130 Forest Rd.	High Shoals, N. C.
Powers, D. R.	Jr. M. E.	221 7th, Box 3353	St. Pauls, N. C.
Powers, L. R.	Fr. Ch. E.	216 Hawthorne Road	Durham, N. C.
Powers, L. W.	Fr. Ag.	211 Hawthorne Road	Moyock, N. C.
Pratt, C. C.	Sr. Ag.	231 7th, Box 3363	Winston-Salem, N. C.
Preslar, M. A.	So. E. E.	Box 114, Cary, N. C.	Cary, N. C.
Price, E. W., Jr.	Fr. C. E.	223 Hillcrest Road	Raleigh, N. C.
Price, Fred H., Jr.	So. Ag.	17 Enterprise St.	Shelby, N. C.
Propst, D. E.	Fr. Ag. Ed.	329 South, Box 3593	Belwood, N. C.
Proud, E. R.	Fr. Ch. E.	309 5th, Box 3233	Goldsboro, N. C.
Pruden, W. H.	Jr. Ag. Ed.	221 1911, Box 3761	Margarettsville, N. C.
Pugh, E. S.	Jr. Arch. E.	303 1911, Box 3783	Elizabeth City, N. C.
Pully, R. M.	So. Tex.	8 Ferndell Lane	Woodsdale, N. C.
Purifoy, D. H.	Jr. Ag.	Brooks Ave., Box 5441	Bachelor, N. C.
Purvis, R. S.	Fr. Ag.	334 7th, Box 3400	Rocky Mount, N. C.
Query, T. W.	So. E. E.	115 Woodburn Road	Harrisburg, N. C.
Quesinberry, O.	Fr. Tex.	208 6th, Box 3256	Mt. Airy, N. C.
Quintard, E. A.	Sr. Tex. W. and D.	1622 Park Drive	Charlotte, N. C.
Raby, J. P.	Jr. Ag. Ed.	115 Park Ave.	Almond, N. C.
Radke, G. E.	Fr. Arch. E.	309 5th, Box 3233	Sheffield, Mass.
Rafik, A. F.	Jr. Ag.	12 Enterprise St.	Sulaimani, Iraq.
Ragsdale, T. C.	Sr. Tex. Mgt.	21 Enterprise St.	Jamestown, N. C.
Ramsey, A. H.	So. Tex. Mfg.	101 7th, Box 3301	Charlotte, N. C.
Ramsey, D. L.	Sr. Tex. Mfg.	207 4th, Box 3125	Charlotte, N. C.
Ramsey, W. C.	Ag.	8 Ferndell Lane	Mars Hill, N. C.
Rand, K. T.	Sr. Ind. Mgt.	2218 Creston Road	Raleigh, N. C.
Randolph, E. O., Jr.	Jr. Ch. E.	212 Groveland Ave.	Morganton, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Randolph, H. F.	So. Cer. E.	2900 Hillsboro St.	Raleigh, N. C.
Ranes, W. C., Jr.	Fr. E. E.	116 South, Box 3516	Tarboro, N. C.
Raney, M. T.	Fr. E. E.	323 7th, Box 3389	La Crosse, Va.
Rankin, H., Jr.	Fr. M. E.	200 Woodburn Road	Gastonia, N. C.
Rankin, R. W.	So. Tex. Mfg.	2308 Hillsboro St.	Gastonia, N. C.
Rankin, W. B.	Grad. Chemistry	11 Enterprise St.	Boone, N. C.
Ray, M. E.	Sr. C. E.	Route 1	Raleigh, N. C.
Ray, W. A.	Fr. Ch. E.	Gymnasium, Box 5402	Fayetteville, N. C.
Raymond, A. G.	So. Ind. E.	2004 Hillsboro St.	Moorestown, N. J.
Reams, W. J.	Fr. Ag. Ed.	3 South, Box 3599	Apex, N. C.
Redding, J. F.	Jr. Tex.	135 1911, Box 3735	Asheboro, N. C.
Redmon, B. B.	So. M. E.	130 Forest Road	Cleveland, N. C.
Reed, Chester J.	So. For.	324 South, Box 3588	Raleigh, N. C.
Reed, R. L.	Fr. C. E.	22 South, Box 3618	Hertford, N. C.
Reeves, J. F.	So. For.	23 Shepherd St.	Weaverville, N. C.
Reeves, R. B., Jr.	So. Arch. E.	228 E. Park Drive	Raleigh, N. C.
Reeves, G. W.	Fr. Ag.	Gymnasium, Box 5392	Lake Junaluska, N. C.
Regan, C. S.	So. Ag. Ed.	2411 Everett Ave.	Apex, N. C.
Regan, P. R.	Fr. Tex. W. and D.	16 South, Box 3612	Lexington, N. C.
Regdon, A. A.	Grad. Rur. Soc.		
Register, H. G.	So. Ch. E.	302 Watauga, Box 3038	Fayetteville, N. C.
Reichert, P. F.	Fr. For.	220 Cox Ave.	
Reed, W. J.	Fr. Ag. E.	211 5th, Box 3223	Elizabeth City, N. C.
Remmey, A. E. M.	So. Tex.	1922 Hillsboro St.	Greensboro, N. C.
Remmey, R. C., Jr.	So. Ind. E.	1408 Hillsboro St.	Greensboro, N. C.
Renn, C. W.	So. Ag.	233 1911, Box 3773	Winston-Salem, N. C.
Renn, J. A.	Jr. Ind. Arts.	233 1911, Box 3773	Winston-Salem, N. C.
Repony, W. C.	Sr. Chemistry	912 Boylan Drive	Clifton, N. J.
Retter, W. H.	Fr. Ch. E.	102 7th, Box 5173	Stonington, Conn.
Reynolds, B. B.	So. Ch. E.	213 1911, Box 3753	Wilmington, N. C.
Reynolds, R. H., Jr.	Jr. E. E.	1420 Park Drive	Raleigh, N. C.
Rhyne, C. A.	Fr. Tex.	709 Hillsboro	Mt. Holly, N. C.
Rhyne, J. L.	Fr. E. E.	108 4th, Box 3118	Gastonia, N. C.
Rice, R. L.	Fr. M. E.	7 S. Person St.	Raleigh, N. C.
Richardson, D. L.	Fr. E. E.	105 Seawell Ave.	Raleigh, N. C.
Richardson, E. R., Jr.	Fr. Ag.	209 Park Ave.	Louisburg, N. C.
Richardson, H. H.	Fr. Ag.	23 South, Box 3619	Jackson Springs, N. C.
Richardson, J. T.	Sr. A. H.	107 Watauga, Box 3007	Turbeville, Va.
Richardson, W. C.	Fr. Ag.	312 6th, Box 3272	Sparta, N. C.
Ricks, J. B.	Fr. Ag.	334 7th, Box 3400	Rocky Mount, N. C.
Riddick, C. R.	Sr. M. E.	2412 Everett Ave.	Hertford, N. C.
Riddick, H. S.	Fr. Ag. Ed.	105 6th, Box 3241	Gatesville, N. C.
Riddick, W. W., Jr.	So. Tex.	225 Woodburn Road	Raleigh, N. C.
Ridenhour, M. H., Jr.	So. Ch. E.	207 Watauga, Box 3025	Coolemeec, N. C.
Riley, H. F.	Jr. Ch. E.	339 1911, Box 3819	New Bedford, Mass.
Riley, M. M.	Grad. For.	14 Enterprise St.	Raleigh, N. C.
Risley, R. S.	Fr. M. E.	2221 Creston Road	Raleigh, N. C.
Ritch, R. E.	Sr. E. E.	322 New Bern Ave.	Raleigh, N. C.
Ritchie, J. I.	Fr. For.	508 Dixie Trail	Buffalo, N. Y.
Ritter, Kelly.	Fr. Ag. Ec.	State College Sta.	Fayetteville, N. C.
Ritter, W. H.	So. Tex.	117 Forest Road	Greensboro, N. C.
Rivers, T. W.	Sr. C. E.	107 1911, Box 3707	Greenville, N. C.
Rivers, W. H.	Fr. E. E.	208 Rhem Ave.	New Bern, N. C.
Robbins, J. R.	Jr. Ch. E.	2412 Everett Ave.	Pitman, N. J.
Robbins, R. L.	Fr. For.	218 South, Box 3550	Bath, N. C.
Robbins, W. S.	Fr. Ag.	219 South, Box 3551	Bath, N. C.
Roberson, W.	So. M. E.	7 Maiden Lane	Durham, N. C.
Roberts, C. W.	So. Ag.	212 1911, Box 3721	Weaverville, N. C.
Roberts, E. J.	So. For.	8 Fernell Lane	Marshall, N. C.
Roberts, G. B.	So. Ag. Ed.	215 Park Ave.	Newport, N. C.
Roberts, H. T.	Fr. Ag.	125 Woodburn Road	Coats, N. C.
Roberts, L. H.	So. Ag.	117 Forest Road	Stem, N. C.
Roberts, W. W.	Fr. Tex.	104 5th, Box 3204	Lowell, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Robertson, A. D.	Sr. E. E.	2314 Hillsboro St.	Lumberton, N. C.
Robertson, H. N.	Fr. E. E.	208 4th, Box 3126.	Knightdale, N. C.
Robertson, L. C.	Fr. Ch. E.	123 Woodburn Road	Wilmington, N. C.
Robertson, O. R.	Fr. Arch. E.	301 W. Park Drive	Raleigh, N. C.
Robertson, R. J.	Fr. For.	112 7th, Box 3312.	Annapolis, Md.
Robeson, G. F.	So. Ch. E.	120 Woodburn Road	Greensboro, N. C.
Robinette, R. T.	Fr. Tex.	216 7th, Box 3348.	Albemarle, N. C.
Robinson, G. C.	So. Cer. E.	2820 Bedford Ave.	Cooleemee, N. C.
Robinson, H. F.	So. Ag.	8 Ferndell Lane.	Bandana, N. C.
Robinson, H. G., Jr.	So. M. E.	1301 Hillsboro St.	Charlotte, N. C.
Robinson, I. R.	Sr. Tex. Mfg.	111 7th, Box 3311.	Southport, N. C.
Robinson, W. E.	Fr. Ch. E.	1541 Caswell St.	Wilkesboro, N. C.
Rock, W. VanD.	Fr. E. E.	17 Glenwood Ave.	Raleigh, N. C.
Rodriguez, C. V.	So. M. E.	513 Hillsboro St.	Ponce, Puerto Rico
Rogers, J. M.	Fr. M. E.	2004 Hillsboro St.	Clio, S. C.
Rogers, S. D.	So. M. E.	103 Watauga, Box 3003.	Wilmington, N. C.
Rogers, W. B., Jr.	Sr. Tex. Mfg.	203 7th, Box 3335.	Durham, N. C.
Rolland, T. J., Jr.	Sr. Ch. E.	219 7th, Box 3351.	Greensboro, N. C.
Rollings, R. S.	Fr. E. E.	107 South, Box 3507.	Pinewood, S. C.
Rollins, J. E.	Fr. Ag.	Route No. 3.	Raleigh, N. C.
Rollins, J. J.	Fr. Con. E.	318 7th, Box 3384.	Hickory, N. C.
Rolston, J. A.	Fr. Cer. E.	407 Chamberlain St.	Raleigh, N. C.
Rood, A. B.	So. M. E.	2410 Hillsboro St.	Greensboro, N. C.
Rooker, W. F.	Fr. Ag.	305 5th, Box 3229.	Norlina, N. C.
Rooney, A. E.	So. Tex.	234 7th, Box 5262.	Pittsburgh, Pa.
Rose, H. M.	So. Ch. E.	114 South, Box 3314.	Greenville, S. C.
Rose, J. P., Jr.	Fr. Arch. E.	321 South, Box 3585.	Durham, N. C.
Ross, L. C.	So. Ag.	106 1911, Box 3706.	Greensboro, N. C.
Ross, R. P.	So. M. E.	2405 Clark Ave.	Lillington, N. C.
Rossi, C. L.	So. C. E.	208 Groveland Ave.	Torrington, Conn.
Rouse, D. W.	So. E. E.	5 Hope St.	Rose Hill, N. C.
Rouse, R. G.	Fr. Ag.	307 6th, Box 3267.	Kinston, N. C.
Rowe, H. B.	Fr. Ch. E.	208 6th, Box 3256.	Mt. Airy, N. C.
Rowell, J. O.	Grad. Ent.		
Rowland, W. T.	So. E. E.	1806 Hillsboro St.	Charlotte, N. C.
Ruark, J. C.	So. Tex. Mfg.	205 Forest Road	Southport, N. C.
Ruddock, H. A.	Jr. Ch. E.	209 1911, Box 3749.	Charlotte, N. C.
Rudisill, B. R.	So. Tex. Mfg.	2405 Clark Ave.	Cherryville, N. C.
Rufty, J. W.	So. Tex. W. and D.	2405 Clark Ave.	Spencer, N. C.
Rugh, J. G.	So. M. E.	112 7th, Box 3312.	Bridgeton, N. J.
Runkle, C. D.	So. Ch. E.	220½ Cox Ave.	Waynesboro, Va.
Runnion, R. S., Jr.	Sr. E. E.	1025 Harvey St.	Raleigh, N. C.
Rupp, H.	Jr. For.	118 Hillcrest Road	Mechanicsburg, Pa.
Russell, C. R., Jr.	So. Ind. Arts	103 Dixie Trail	Raleigh, N. C.
Ryder, Edwin W.	Sr. For.	6 Ferndell Lane.	Shippensburg, Pa.
Sabol, F. P.	Jr. Cer. E.	324 7th, Box 3390.	Campbell, Ohio
Sabolyk, R.	Fr. Ind. Arts	Gymnasium, Box 5252.	Yonker, N. Y.
Sachaklian, C. H.	Sr. Con. E.	132 1911, Box 3732.	Marcellus, N. Y.
Sailer, S. S.	Jr. Tex. Mgt.	307 Watauga, Box 3043.	E. Orange, N. J.
Sale, H. G.	Fr. M. E.		Elkin, N. C.
Sallenger, A. H.	Jr. E. E.	1301 Hillsboro St.	Florence, S. C.
Salmela, O. R.	So. M. E.-Aero.	2818 Bedford Ave.	E. Weymouth, Mass.
Saltzman, A. R.	Sr. Ch. E.	207 7th, Box 3339.	Bradley Beach, N. J.
Sanderhoff, C. P.	Fr. M. E.	1806 Hillsboro St.	Winston-Salem, N. C.
Sanders, H. K., Jr.	Fr. Ag. E.	204 6th, Box 3252.	Roxboro, N. C.
Sanders, M.	So. E. E.	223 7th, Box 3355.	Franklin, N. C.
Sanders, W. M.	So. Ag. Ec.	222 Park Ave.	Hubert, N. C.
Sands, K. M.	Fr. Tex. Mgt.	Gymnasium, Box 5173.	Pulaski, Va.
Sandy, M. C.	Fr. For.	217 S. Bloodworth St.	Raleigh, N. C.
Santore, C. A.	Fr. Tex. C. and D.	2004 Hillsboro St.	Hasbrouck Hgts., N. J.
Sapp, J. A.	Fr. Tex.	119 S. Dawson St.	Raleigh, N. C.
Sarandria, W.	Fr. Tex.	207 South, Box 3539.	W. New York, N. J.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Sasser, C. W.	Fr. M. E.	315 South, Box 3579	Wilson, N. C.
Satterfield, L. S.	Sr. Tex.	124 Groveland Ave.	Danville, Va.
Sauls, N. D.	Fr. Ag.	Garner, N. C.	Garner, N. C.
Saunders, C. B.	Fr. Cer. E.	214 South, Box 3546	Durham, N. C.
Saunders, J. M.	Fr. Tex. W. and D.	618 Hillsboro St.	Statesville, N. C.
Saunders, M. D.	Sr. Ch. E.	2513 Clark Ave., Box 5458	Gastonia, N. C.
Sauvain, E. B.	Jr. Tex.	21 Enterprise St.	Concord, N. C.
Savini, J.	So. Geol. E.	102 7th, Box 5173	No. Hanover, Mass.
Sawyer, E. L.	Sr. Ch. E.	222 1911, Box 3762	Sanford, N. C.
Sawyer, J. P., Jr.	Jr. Cer. E.	328 1911, Box 3808	Elizabeth City, N. C.
Sawyer, W. R.	Fr. M. E.-Aero.	4 W. Dixie Drive	Shiloh, N. C.
Sayre, E. H.	Fr. Cer. E.	304 4th, Box 3130	Tryon, N. C.
Scarborough, B. E.	Fr. Tex.	211 5th, Box 3223	Mt. Gilead, N. C.
Scarborough, F. G.	Fr. Con. E.	310 6th, Box 3270	Black Mountain, N. C.
Scarborough, W. T.	Fr. Ag.	Carolina Pines	Raleigh, N. C.
Scasserra, J. C.	Fr. For.	312 7th, Box 3378	Rocky Hill, N. J.
Schmidt, A. C., Jr.	Fr. For.	204 5th, Box 3216	W. Englewood, N. J.
Schneider, H.	Sr. Tex. Mgt.	116 Groveland Ave.	Brooklyn, N. Y.
Scholes, W. A.	Jr. Cer. E.	1301 Hillsboro St.	Detroit, Mich.
Scholtz, W. W.	Sr.	1922 Hillsboro St.	Charlotte, N. C.
Schoof, H. F.	Grad. Ag. Zool.		
Schreiber, W. A.	Sr. Ag. Ec.	1922 Hillsboro St.	Charlotte, N. C.
Schroder, G. O.	Grad. Chemistry		
Schug, T. J.	Fr. For.	210 Ashe Ave.	Utica, N. Y.
Schwerdt, J. J.	Sr. H. S. T.	234 7th, Box 5262	Everett, Mass.
Schworm, S.	So. Ind. Arts	301 Park Ave.	Charlotte, N. C.
Scoggins, J. R.	Fr. Tex.	125 Chamberlain St.	Cramerton, N. C.
Scott, E. S.	Sr. Con. E.	14 Maiden Lane	Raleigh, N. C.
Scott, J. A.	Fr. M. E.-Aero.	304 5th, Box 3228	Charlotte, N. C.
Scott, O. W.	Fr. Ag.	110 South, Box 3510	Haw River, N. C.
Scott, S. D.	Fr. C. E.	116 Forest Road	Raleigh, N. C.
Seago, S. Z.	Sr. M. E.	2202 Hillsboro St.	Greenville, N. C.
Seagraves, W. P.	Grad. Math.		
Sears, J. L., Jr.	Fr. E. E.	24 South, Box 3620	Morrisville, N. C.
Sears, J. W.	Sr. Tex. Mgt.	103 Chamberlain St.	Belhaven, N. C.
Sears, J. W.	So. M. E.-Aero.	614 W. Lane St.	Goldsboro, N. C.
Seely, J. F.	Sr. Ch. E.	227 7th, Box 3359	Hamlet, N. C.
Seifert, D. W., Jr.	Fr. M. E.	8 Maiden Lane	Weldon, N. C.
Seitz, W. P.	Jr. Ag.	125 7th, Box 3325	Newton, N. C.
Selkinghaus, W.	Grad. M. E.	302 Home St.	Raleigh, N. C.
Sener, D.	Sr. Ch. E.	227 7th, Box 3359	Harrisburg, Pa.
Setser, M. S.	Fr. Ag.	203 Chamberlain St.	Franklin, N. C.
Setzer, C. M., Jr.	Fr. M. E.	111 South, Box 3511	Charlotte, N. C.
Setzer, J. D.	Fr. E. E.	14 South, Box 3610	Maiden, N. C.
Sevier, J. R.	So. E. E.	2701 Clark Ave.	Asheville, N. C.
Seymour, R. R.	Jr. Tex. Mgt.	Route No. 1.	Cary, N. C.
Shallington, T. W.	Fr. For.	10 Enterprise St.	Columbia, N. C.
Shapiro, J.	So. For.	311 Hillcrest Road	Salem, N. J.
Shapou, T. R.	Fr. For.	218 South, Box 5344	New Bern, N. C.
Sharp, W. D.	So. E. E.	218 1911, Box 3758	Greensboro, N. C.
Shaw, H. M.	Fr. E. E.	306 7th, Box 3372	Wilson, N. C.
Shaw, J. C.	Jr. Tex.	117 Park Ave.	Kerr, N. C.
Shaw, K. J.	Grad. Pl. Path.		
Shaw, W. C.	Fr. For.	10 South, Box 3606	Richlands, N. C.
Shearin, D. C.	Fr. Ch. E.	226 South, Box 3558	Roanoke Rapids, N. C.
Shearon, E. C.	Fr. M. E.	Route No. 3.	Raleigh, N. C.
Shearon, J. R.	Jr. E. E.	328 1911, Box 3808	Bunn, N. C.
Shearon, K. B.	So. Ch. E.	Route No. 3.	Raleigh, N. C.
Sheetz, G. M.	Fr. M. E.-Aero.	103 6th, Box 3239	Allentown, Pa.
Sheldon, H. W.	Fr. Ag.	804 E. Edenton St.	Raleigh, N. C.
Shelley, R. W.	Jr. For.	2704 Bedford Ave.	Forksville, N. C.
Shelton, W. R., Jr.	So. For.	3 Dixie Trail, Route No. 6	Asheville, N. C.
Shepherd, M. L.	Grad. Ag. Ec.		

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Sherrill, G. M.	Jr. Ag.	122 7th, Box 3322	Winston-Salem, N. C.
Sherron, J. F.	Fr. Ag.	109 6th, Box 3245	Wake Forest, N. C.
Sherwin, S. T.	So. Ch. E.	2513 Clark Ave.	Greensboro, N. C.
Shields, F. P.	So. Ag.	1922 Hillsboro St.	Scotland Neck, N. C.
Shields, J. L.	Fr. Ag.	114 South, Box 3514	Murphy, N. C.
Shimer, C. B.	Sr. For.	201 5th, Box 3213	Wilmington, N. C.
Shoe, G. W.	Fr. Arch. E.	218 Cox Ave.	Greenville, N. C.
Shore, E. L.	Sr. Ag.	325 1911, Box 3805	Cycle, N. C.
Shores, C. C.	Fr. M. E.	202 South, Box 3534	Rockingham, N. C.
Shotwell, J. T.	Fr. Tex.	127 South, Box 3527	Henderson, N. C.
Shropshire, S. H.	Fr. Tex. Mgt.	326 7th, Box 3392	Huntersville, N. C.
Shumaker, M. L.	Jr. Ag.	221 7th, Box 3353	Philadelphia, Pa.
Shumate, R. D., Jr.	Fr. M. E.	133 7th, Box 3401	Spray, N. C.
Shumway, O. A.	Sr. Ch. E.	318 1911, Box 3798	Fairhaven, Mass.
Sigmon, B. H.	Sr. Tex. W. and D.	124 1911, Box 3724	Alexis, N. C.
Sigmon, R. M., Jr.	So. F. E.	21 Enterprise St.	Salisbury, N. C.
Silver, Lois S., Miss.	Grad. Ru. Soc.		
Simkins, R. I.	Grad. C. E.	851 W. Tryon St., Mail: Box 5502	Goldsboro, N. C.
Simmons, A. W.	So. For.	2407 Clark Ave.	Hendersonville, N. C.
Simmons, G. J.	Jr. Ch. E.	303 Watauga, Box 3039	New Bedford, Mass.
Simmons, J. D.	Fr. C. E.	5 College Court Apt.	Seven Springs, N. C.
Simmons, T. V.	So. Ag. Ed.	8 Ferndell Lane.	Roseboro, N. C.
Simpson, W. C.	So. E. E.	1621 Park Drive	Pinebluff, N. C.
Sinback, C. N.	Fr. Ch. E.	208 South, Box 3540	Tarboro, N. C.
Singleton, N.	Jr. Ch. E.	17 Enterprise St.	New Bedford, Mass.
Sitterton, J. D., Jr.	Fr. C. E.	210 South, Box 3542	Southern Pines, N. C.
Sitton, M. D.	Fr. Ch. E.	7 Maiden Lane	Charlotte, N. C.
Sivertsen, H. L.	Fr. Ag. Ed.	303 South, Box 3567	Autryville, N. C.
Skowronek, L. J.	So. C. E.	209 7th, Box 3341	
Slagle, C. S., Jr.	Fr. Ag.	209 6th, Box 3257	Franklin, N. C.
Slagle, C. W.	Fr. Ag.	209 6th, Box 3257	Franklin, N. C.
Slesinger, M. L.	So. Tex. C. and D.	412 Newbern Ave.	Raleigh, N. C.
Sloan, T. G.	Sr. Tex. C. and D.	1720 Hillsboro St.	Charlotte, N. C.
Slocum, R. W.	Jr. For.	2316 Hillsboro St.	Scranton, Pa.
Slocumb, C. D., Jr.	Sr. Tex.	8 Maiden Lane	Goldsboro, N. C.
Small, J. C.	Fr. C. E.	202 6th, Box 3250	Elizabeth City, N. C.
Small, J. E.	Fr. Tex.	23 Shepard St.	Concord, N. C.
Small, W. B.	Sr. C. E.	103 Watauga, Box 3003	Washington, N. C.
Smart, C. S.	So. Tex. C. and D.	1922 Hillsboro St.	Concord, N. C.
Smith, A., Jr.	Sr. Ind. Mgt.	321 1911, Box 3801	Kinston, N. C.
Smith, A. J.	Sr. Ag. Ed.	308 1911, Box 3788	Goldsboro, N. C.
Smith, A. M.	So. Ch. E.	217 Watauga, Box 3035	Elkin, N. C.
Smith, E. F.	Jr. Ch. E.	332 1911, Box 3812	Lexington, N. C.
Smith, E. T.	Fr. Ag. Ed.	Route 5	Raleigh, N. C.
Smith, E. W., IV	Jr. For.	126 7th, Box 3326	Norfolk, Va.
Smith, F. L.	Sr. Ag. Ed.	220 Chamberlain St.	Denton, N. C.
Smith, F. O.	So. M. E.	214 Park Ave.	McLeansville, N. C.
Smith, F. S.	Sr. Ind. Arts	811 Glenwood Ave.	Raleigh, N. C.
Smith, G. E., Jr.	Sr. For.	107 Watauga, Box 3007	Greenville, S. C.
Smith, G. R.	So. Tex. C. and D.	115 Woodburn Road	Goldsboro, N. C.
Smith, G. T., Jr.	Fr. Con. E.	205 5th, Box 3217	Charlotte, N. C.
Smith, H. B., Jr.	Sr. Ch. E.	113 1911, Box 3713	New Bern, N. C.
Smith, H. S.	So. Ch. E.	1301 Hillsboro St.	Hickory, N. C.
Smith, I. W.	Sr. For.	1204 Hillsboro St.	Hendersonville, N. C.
Smith, J., Jr.	Sr. Con. E.	231 1911, Box 3721	Leaksville, N. C.
Smith, J. M.	Sr. Ch. E.	1301 Hillsboro St.	Hickory, N. C.
Smith, J. N.	So. Cer. E.	120 1911, Box 3720	New Bern, N. C.
Smith, J. R., Jr.	Jr. E. E.	101 7th, Box 3301	Charlotte, N. C.
Smith, J. S.	So. Ag.	312 Watauga, Box 3048	Lincolnton, N. C.
Smith, L. M., Jr.	Sr. Ag.	Pool Road	Raleigh, N. C.
Smith, L. W.	Fr. M. E.	120 Woodburn Road	Angier, N. C.
Smith, M. S.	Fr. Arch. E.	708 Florence St.	Raleigh, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Smith, N. G., Jr.	So. Ch. E.	1720 Hillsboro St.	Goldsboro, N. C.
Smith, O. F.	Fr. Arch. E.	204 1911, Box 3744.	Benson, N. C.
Smith, O. L.	Fr. Ag.	115 Woodburn Road	Tar Heel, N. C.
Smith, Pauline	Grad. Ind. Arts.		
Smith, R.	Fr. Ag.	326 7th, Box 3392	Nutley, N. J.
Smith, R. S.	So. Ag.	3 Maiden Lane	Vanceboro, N. C.
Smith, Velma, Miss.	Spec. Ed.		
Smith, W. C.	So. Ag.	409 Chamberlain St.	Rich Square, N. C.
Smith, W. E.	Fr. C. E.	104 S. Harrington St.	Raleigh, N. C.
Smith, W. L.	Fr. Tex.	209 5th, Box 3221	Wilmington, N. C.
Smith, W. W.	So. E. E.	301 Park Ave.	Ransomville, N. C.
Smyre, H. A.	So. M. E.	125 Woodburn Road	Greensboro, N. C.
Snipes, Harvey G.	Sr. Ag. Ed.	303 7th, Box 3369	Ahoskie, N. C.
Snipes, M. L.	So. For.	10 Enterprise St.	Sanford, N. C.
Snook, R. C.	Sr. E. E.	6 Ferndell Lane.	Roselle, N. J.
Snow, W. C.	So. For.	1720 Hillsboro St.	Richmond, Va.
Snyder, G. W.	So. C. E.	209 1911, Box 3749	Wadesboro, N. C.
Soady, E. D.	So. Con. E.	206 1911, Box 3746	Asheboro, N. C.
Sokoloff, M. B.	Sr. Tex.	2223 Creston Road.	Raleigh, N. C.
Sorrell, R.	Sr. M. E.	1405 Wake Forest Rd.	Raleigh, N. C.
Southerland, D. R.	Sr. Ind. Mgt.	319 1911, Box 3799	Goldsboro, N. C.
Southerland, F. M.	Sr. Tex. C. and D.	1922 Hillsboro St.	Durham, N. C.
Southerland, M.	Sr. Tex.	220 1911, Box 3760	Wallace, N. C.
Spain, L. R.	Jr. Ch. E.	608 E. Franklin St.	Raleigh, N. C.
Spainhour, J. E.	Sr. Tex.	304 1911, Box 3784	N. Wilkesboro, N. C.
Spainhour, K. H.	Fr. M. E.	106 5th, Box 3206	Greensboro, N. C.
Sparger, H. M.	So. Tex.	218 Watauga, Box 3036	Mt. Airy, N. C.
Sparks, J. T., Jr.	Fr. Ag. Ed.	104 4th, Box 3164	Ruffin, N. C.
Spear, W. H.	So. M. E.	2407 Clark Ave.	Winston-Salem, N. C.
Speer, F. R.	Sr. Ag.	122 7th, Box 3322	Boonville, N. C.
Speer, J. M.	So. Ag. E.	Y. M. C. A.	Boonville, N. C.
Spence, M. B.	Sr. Ind. Mgt.	12 Enterprise St.	Kinston, N. C.
Spencer, M. F.	Jr. Tex. C. and D.	207 1911, Box 3747	Salisbury, N. C.
Speirs, H. R., Jr.	Fr. Ag.	1314 Mordecai Drive	Raleigh, N. C.
Spiker, T. F.	Fr. For.	111 6th, Box 3247	Drexel Hill, Pa.
Spivey, C. H.	Fr. E. E.	102 6th, Box 3238	Sunbury, N. C.
Spruill, W. H.	Fr. M. E.	308 6th, Box 3268	Oriental N. C.
Squires, C. J.	Sr. Tex.	103 1911, Box 3703	Draper, N. C.
Squires, E. W.	So. Ch. E.	103 1911, Box 3703	Draper, N. C.
Stacy, L. E., Jr.	Jr. M. E.	11 Enterprise St.	Chapel Hill, N. C.
Stafford, W. E.	So. Ag.	2310 Hillsboro St.	Garland, N. C.
Stainback, T. N., Jr.	Fr. E. E.	130 Hawthorne Road	Vanessa, Ont.
Stallings, E. M.	So. Ag. Ec.	230 1911, Box 3770	Selma, N. C.
Stallings, L. W.	Fr. Ag.	113 South, Box 3513	Trotville, N. C.
Stallings, R. L.	Sr. Ind. Mgt.	Y. M. C. A.	Bridgeton, N. C.
Stancil, W. S.	Fr. Cer. E.	Garner	Garner, N. C.
Stanton, M. P.	Fr. E. E.	101 South, Box 3501	Rowland, N. C.
Starnes, M. E.	So. Ag. Ed.	2411 Everett Ave.	Monroe, N. C.
Steele, J. J.	Jr. For.	407 Dixie Trail	Lenoir, N. C.
Stephenson, E. P.	So. E. E.	115 Woodburn Road	Wilson, N. C.
Stephenson, R. W.	Grad. Phys.		
Stevens, J. H.	Sr. Tex. W. and D.	2405 Clark Ave.	Lancaster, S. C.
Stevens, R. A., Jr.	So. Agr.	19 South, Box 3615	Goldsboro, N. C.
Stinson, Katherine	So. M. E.-Aero.	101 Horne St.	Varina, N. C.
Stocks, L. H., Jr.	Fr. Ag.	5 South, Box 3501	Hookerton, N. C.
Sto~regen, H. P., Jr.	Jr. For.	Route 1	Raleigh, N. C.
Stokes, C. C., Jr.	So. Ch. E.	Route 4	Raleigh, N. C.
Stone, A. M.	Fr. Ag. Ec.	12 South, Box 3608	Rowland, N. C.
Stone, R. L.	Grad. Cer. E.	20 Bagwell Ave.	Raleigh, N. C.
Storey, C. H., Jr.	Jr. E. E.	213 1911, Box 3753	Wilmington, N. C.
Stott, P. C.	Jr. Tex.	214 1911, Box 3574	Wendall, N. C.
Stowell, E. D.	Jr. Ch. E.	229 7th, Box 3361	New Bedford, Mass.
Strader, A., Jr.	Fr. M. E.	104 4th, Box 3114	Reidsville, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Strickland, A. T.	So. C. E.	103 1911, Box 3703	Louisburg, N. C.
Strickland, R. C.	Fr. Tex.	1716 Park Drive	Nashville, N. C.
Stroud, J. J.	So. C. E.	215 7th, Box 3347	Southern Pines, N. C.
Stroup, H. W.	So. M. E.-Aero.	120 7th, Box 3320	Cherryville, N. C.
Strupler, A. T.	Jr. Tex.	202 Watauga, Box 3020	Fayetteville, N. C.
Stuart, C. W.	Jr. Tex.	202 Watauga, Box 5172	Winston-Salem, N. C.
Stuckey, R. C., Jr.	So. Cer. E.	3109 Hillsboro St.	Raleigh, N. C.
Sturkey, C. M., Jr.	So. Ch. E.	222 1911, Box 3762	Bryan, Ohio
Stutts, J. L.	Fr. M. E.	114 1911, Box 3714	Black Mountain, N. C.
Sugg, H. M.	Fr. M. E.	330 South, Box 3594	Sanford, N. C.
Sugg, W. J.	Fr. M. E.-Aero.	204 4th, Box 3122	Princeton, N. C.
Sullivan, J. L.	Sr. Ind. Mgt.	231 7th, Box 3363	Wilson, N. C.
Sullivan, J. W.	Fr. Ind. Arts	230 7th, Box 5314	Staten Island, N. Y.
Summey, S. C.	Jr. Tex.	103 Chamberlain St.	Shelby, N. C.
Surratt, W. Q.	Fr. For.	227 South, Box 3559	Burlington, N. C.
Suther, G. A.	Jr. M. E.	122 1911, Box 3722	Charlotte, N. C.
Sutton, D. A.	So. Ag.	College Station; Mail Box 5127	Goldsboro, N. C.
Swain, B. C.	Fr. E. E.	302 6th, Box 3262	Cycle, N. C.
Swan, C. W.	Tex.		Raleigh, N. C.
Swanson, C. P.	Fr. Ag.	315 7th, Box 3381	Babylon, N. Y.
Swanson, S. R.	So. For.	851 Tryon St.	Belmont, N. C.
Sykes, E. F.	Fr. M. E.	311 6th, Box 1327	Harrellsville, N. C.
Szulik, R. W.	Jr. Tex. C. and D.	313 1911, Box 3793	New Bedford, Mass.
Tager, S.	Fr. Ind. E.	301 7th, Box 3367	Brooklyn, N. Y.
Talley, C. E.	Fr. E. E.	2412 Everett Ave.	Semora, N. C.
Tarkenton, J. C., Jr.	So. C. E.	10 Enterprise St.	Mackeys, N. C.
Tatum, Jesse B.	Sr. Tex.	202 7th, Box 5282	McColl, S. C.
Tatum, John B.	Fr. Ind. Arts	Gymnasium, Box 5252	McColl, S. C.
Tatum, R. L.	Fr. Ch. E.	2708 Vanderbilt Ave.	Raleigh, N. C.
Taylor, D. T.	Fr. E. E.	312 5th, Box 3236	Seaboard, N. C.
Taylor, H. M.	So. M. E.-Aero.	215 Watauga, Box 3033	High Point, N. C.
Taylor, I.	Fr. Ag.	226 1911, Box 3766	Gates, N. C.
Taylor, I. L.	So. For.	210 Woodburn Road	Harrisburg, N. C.
Taylor, L. E.	Jr. E. E.	203 Watauga, Box 3021	Greenville, N. C.
Taylor, M. H.	Jr. Game Mgt.	2316 Hillsboro St.	High Point, N. C.
Taylor, M. P.	Sr. Ag. Ed.	217 1911, Box 3757	Enfield, N. C.
Taylor, R. A.	So. Tex.	1712 Park Drive	Whitakers, N. C.
Taylor, T. J.	Fr. Ag.	4 Dixie Drive	Oxford, N. C.
Taylor, T. K.	So. Tex.	302 1911, Box 3782	Lewisville, N. C.
Taylor, W. G., Jr.	So. M. E.	123 1911, Box 3723	Asheville, N. C.
Taylor, W. N.	Jr. E. E.	224 7th, Box 3356	Jonesboro, N. C.
Teague, K. H.	Fr. C. E.	308 7th, Box 3374	Siler City, N. C.
Teague, S. P.	Sr. Ag.	132 7th, Box 3332	Newland, N. C.
Teague, W. R.	Jr. M. E.	109 Watauga, Box	Henderson, N. C.
Thacker, W. C.	Sr. Ag.	207 1911, Box 3747	Greensboro, N. C.
Thomas, H. C.	So. Ch. E.	2314 Hillsboro St.	Rockingham, N. C.
Thomas, H. H.	Fr. Ch. E.	317 7th, Box 3383	Hyde, Md.
Thomas, H. L.	So. Ag. Ed.	208 7th, Box 3340	Oakboro, N. C.
Thomas, S. L., Jr.	Fr. M. E.	315 7th, Box 3381	Westfield, N. J.
Thomas, W. C., Jr.	Fr. M. E.	15 South, Box 3611	Wilson, N. C.
Thomason, W. A., Jr.	Fr. Tex.	208 4th, Box 3126	Charlotte, N. C.
Thompson, J. B.	So. Tex. Mgt.	120 7th, Box 5282	Mt. Holly, N. C.
Thompson, J. D.	So. Agron.	316 1911, Box 3796	Goldsboro, N. C.
Thompson, J. F.	So. E. E.	104 Watauga, Box 3004	Graham, N. C.
Thompson, J. L.	So. Arch. E.	214 7th, Box 3346	Rocky Mount, N. C.
Thompson, J. R.	So. Tex.	2308 Hillsboro St.	Shelby, N. C.
Thompson, J. W.	Fr. Ch. E.	1614 Scales St.	Raleigh, N. C.
Thompson, P. S.	Jr. Ag. Ec.	130 7th, Box 3330	Cleveland, N. C.
Thompson, R. M.	Sr. H. S. T.	202 7th, Box 5282	Mt. Holly, N. C.
Thompson, W. F.	Fr. Ag. Ed.	Gymnasium, Box 5172	Welksville, N. C.
Thorn, I. W.	Sr. E. E.	2008 Hillsboro St.	Rahway, N. J.
Sykes, V. V.	Fr. Ch. E.	320 7th, Box 3386	Spencer, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Thornburg, W. H.	Fr. Ag.	325 1911, Box 3805	Candor, N. C.
Thorne, J. C.	Jr. Ag. Ed.	8 Ferndell Lane	Selma, N. C.
Thornton, J. L.	So. E. E.	220 Cox Ave.	Spencer, N. C.
Thornton, L. E.	Jr. A. H.	201 6th, Box 3249	Hampton, Va.
Tillett, A. H.	Fr. M. E.	205 6th, Box 3253	Timberlake, N. C.
Tilley, P. B.	Fr. For.	17 South, Box 3613	Fuquay Springs, N. C.
Tillman, J. E.	So. Tex. Mfg.	2402 Everett Ave.	Wadesboro, N. C.
Tipton, W. J.	Fr. Ag.	120 Groveland Ave.	Forbes, N. C.
Todd, E. R.	Fr. Ch. E.	304 5th, Box 3228	Charlotte, N. C.
Todd, Mallie C.	Jr. E. E.	2407 Clark Ave.	Wendell, N. C.
Tollison, J. B.	Sr. Tex. Mgt.	1325 Sycamore St.	Raleigh, N. C.
Tomlinson, J. D.	Fr. E. E.	318 South, Box 3582	Wilson, N. C.
Tommola, U.	So. M. E.-Aero.	222 Cox Ave., Box 5443	Brooklyn, N. Y.
Torrans, K. R.	Sr. Tex. W. and D.	2609 Clark Ave.	Warsaw, N. C.
Towers, R. E.	So. Tex. Mgt.	218 1911, Box 3758	Rome, Ga.
Towery, E. S., Jr.	Fr. Cer. E.	203 5th, Box 3215	Concord, N. C.
Towery, J. A.	Jr. Tex.	125 Woodburn Road	Concord, N. C.
Townsend, C. G.	Fr. Ag. Ed.	303 5th, Box 3227	Rowland, N. C.
Traylor, D. F.	So. For.	225 7th, Box 3357	Murfreesboro, N. C.
Trevathan, L. B.	Fr. Ag. E.	1 South, Box 3597	Winston-Salem, N. C.
Triplett, T. R.	So. E. E.	117 Park Ave.	Kerr, N. C.
Troutman, J. L.	Fr. For.	222 South, Box 3554	Salisbury, N. C.
Troxler, G. F.	Fr. Ag.	105 South, Box 3505	Elon College, N. C.
Truitt, W. B.	Jr. M. E.	110 1911, Box 3710	Greensboro, N. C.
Truitt, W. O.	Sr. M. E.	110 1911, Box 3710	Greensboro, N. C.
Truslow, F. O.	So. Ch. E.	115 Woodburn Road	Draper, N. C.
Tucker, B. S.	Jr. Cer. E.	St. Mary's School	Raleigh, N. C.
Tudor, T. P., Jr.	Fr. Ch. E.	108 South, Box 3508	W. Jefferson, N. C.
Tunnell, J. L.	Sr. Ag. Ed.	116 Watauga, Box 3016	Swan Quarter, N. C.
Turner, Anne, Miss.	Spec. German		Raleigh, N. C.
Turner, C. C.	Fr. E. E.	1506 Hillsboro St.	Newton, N. C.
Turner, D. I.	Fr. Tex. W. and D.	327 South, Box 3591	Greensboro, N. C.
Turner, S. W.	So. M. E.	237 1911, Box 3777	Raleigh, N. C.
Tuttle, R. H.	Fr. For.	5 South, Box 3601	Lenoir, N. C.
Tyler, J. C.	Fr. M. E.	301 Park Ave.	Rosehill, N. C.
Tyndall, J. G.	So. Ch. E.	1720 Hillsboro St.	Fort Bragg, N. C.
Tyner, L. C.	So. M. E.	1902 Fairview Road	Raleigh, N. C.
Tyner, T. M.	Sr. Tex.	125 Chamberlain St.	Shelby, N. C.
Tyren, T. T.	So. M. E.	323 1911, Box 3803	Durham, N. C.
Tyson, W. G., Jr.	So. Ch. E.	1 College Court Apt.	Wendell, N. C.
Umstead, W. A.	Fr. Ch. E.	211 6th, Box 3259	Pinetops, N. C.
Upchurch, F. J., Jr.	Sr. Tex. Mgt.	Route 3	Raleigh, N. C.
Upchurch, J. L., Jr.	Fr. C. E.	115 Forest Road	Durham, N. C.
Usry, S. B.	Fr. C. E.	202 South, Box 3250	Sumter, S. C.
Ussery, J. E., Jr.	Fr. Ag. Ed.	1618 Hillsboro St.	Rockingham, N. C.
Uzzell, A. T., Jr.	Fr. Cer. E.	2202 Hillsboro St.	Durham, N. C.
Valaer, E. P.	Fr. Ag.	111 5th, Box 3511	Washington, D. C.
Vann, I. M., Jr.	So. E. E.	2004 Hillsboro St., Mail Box 5482	Clinton, N. C.
Vanstory, J. H.	Fr. Ag.	5 Infirmary	Charles, N. C.
Vaughan, E. S.	Jr. Ch. E.	10 Enterprise St., Mail Box 5065	Washington, N. C.
Vause, R. C.	Fr. Ag.	103 5th, Box 3203	LaGrange, N. C.
Vestal, E. C., Jr.	Fr. E. E.	304 South, Box 3568	Siler City, N. C.
Vinson, S. C.	So. Ag. Ed.	115 Park Ave.	Franklin, N. C.
Viverette, H. M.	Fr. C. E.	306 6th, Box 3266	Sharpsburg, N. C.
Viverette, M. E.	Fr. Con. E.	121 South, Box 3521	Sharpsburg, N. C.
Viverette, W. E.	Fr. Con. E.	18 Home St.	Sharpsburg, N. C.
Von Canon, J. C.	Sr. A. H.	213 Watauga, Box 3031	Banner Elk, N. C.
Von Oesen, H. M.	Sr. Con. E.	309 1911, Box 3789	Wilmington, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
Wade, B. T., Jr.	Jr. E. E.	118 N. Wilmington St.	Raleigh, N. C.
Wade, B. W.	Fr. Ch. E.	120½ Groveland Ave.	Morehead City, N. C.
Wade, D. B., Jr.	Fr. Ch. E.	129 W. Park Drive	Morehead City, N. C.
Waehli, H. V.	Sr. Ch. E.	217 7th. Box 3349	New York, N. Y.
Wagenfield, R. W.	Fr. M. E.	Gymnasium, Box 5252	Waynesville, N. C.
Wahab, H. S.	Sr. C. E.	107, 1911, Box 3707	Belhaven, N. C.
Waldin, E. L.	Jr. C. E.	1922 Hillsboro St.	Charlotte, N. C.
Waldin, S. M.	Fr. Tex.	323 South, Box 3587	Charlotte, N. C.
Walker, E. M.	So. For.	409 W. Park Drive	Raleigh, N. C.
Wall, H. L., Jr.	Fr. Ch. E.	213 South, Box 3545	Elams, N. C.
Wall, J. R.	Fr. Tex.	125 South, Box 3525	East Bend, N. C.
Wall, S. M.	Fr. Ag. E.	3 Dixie Trail	Lilesville, N. C.
Wall, V. L., Jr.	Fr. Arch. E.	2212 Hope St.	Morven, N. C.
Wallace, F. C.	Fr. Tex. Mgt.	809 Glenwood Ave.	Troy, N. C.
Wallace, R. G.	Fr. M. E.-Aero.	Route 5	Raleigh, N. C.
Waller, D. O., Jr.	Fr. M. E.	213 Duncan St.	Durham, N. C.
Walsh, F. G.	Grad. Ind. Arts	301 5th, Box 3343	Waverly, N. Y.
Ward, C. M.	Fr. M. E.	212 6th, Box 3260	Williamston, N. C.
Ward, L. A.	Sr. M. E.	112 1911, Box 3712	Bemus Point, N. Y.
Ward, L. B.	Sr. C. E.	116 Watauga, Box 3016	Whitakers, N. C.
Ward, L. L.	Fr. Tex.	18 South, Box 3614	Swannanoa, N. C.
Ward, R. L.	Sr. Tex. C. and D.	202 Groveland Ave.	Thomasville, N. C.
Ward, W. J.	Fr. Ag. Ec.	2402 Hillsboro St.	Belhaven, N. C.
Warner, H. P.	So. Tex.	30 Sheperd St.	Raleigh, N. C.
Warren, A. D.	Sr. Tex. Mfg.	2513 Clark Ave.	Snow Hill, N. C.
Warrick, W. C., Jr.	Fr. Ag. E.	212 6th, Box 3260	Clayton, N. C.
Warwick, R. R.	Fr. Ag.	316 South, Box 3580	Clinton, N. C.
Watkins, C. K.	So. Ag.	919 W. Johnson St.	Blanch, N. C.
Watkins, G. H.	Fr. M. E.	111 E. North St.	Wentworth, N. C.
Watson, C. K.	So. Tex.	212 7th, Box 3344	Red Springs, N. C.
Watson, G. I.	Fr. Ag.	314 1911, Box 3794	Lake Landing, N. C.
Watson, I., Jr.	So. M. E.	2410 Hillsboro St.	Enfield, N. C.
Watson, M. E.	So. E. E.	220 7th, Box 3352	Winston-Salem, N. C.
Watson, O. F.	Fr. Ch. E.	304 7th, Box 3370	Winston-Salem, N. C.
Watson, R. S.	Fr. M. E.	212 5th, Box 3224	Swan Quarter, N. C.
Watson, S. M., Jr.	Grad. Math.	2302 Hillsboro St.	Sanford, N. C.
Watson, V. S., Jr.	Sr. Agron.	203 1911, Box	Rocky Mount, N. C.
Watt, J. W.	Fr. M. E.	304 4th, Box 3130	Charlotte, N. C.
Watters, J. V.	Fr. For.	125 South, Box 3525	Bridgeport, Pa.
Watts, C. H.	Fr. Ag. Ed.	316 South, Box 3580	Harmony, N. C.
Watts, N. B.	Sr. For.	124 7th, Box, Y. M. C. A.	Raleigh, N. C.
Watts, R. H., Jr.	Fr. Tex. W. and D.	123 South, Box 3523	Baldwin, N. Y.
Waugh, C. M.	So. Ag.	129 1911, Box 3729	N. Wilkesboro, N. C.
Waynick, D. T.	So. M. E.	224 E. Park Drive	Greensboro, N. C.
Weant, G. E., Jr.	So. M. E.	2405 Clark Ave.	Salisbury, N. C.
Weathers, J. A.	Sr. Ind. Mgt.	106 Dupont Circle	Raleigh, N. C.
Weathers, W. B.	Sr. E. E.	238 1911, Box 3778	Fayetteville, N. C.
Weaver, F. D., Jr.	Fr. Ch. E.	205 South, Box 3537	Wilmington, N. C.
Webb, E. D.	So. Tex.	115½ N. McDowell St.	Raleigh, N. C.
Webb, F. A.	So. M. E.	23 Logan Court	Raleigh, N. C.
Webb, J. F., Jr.	Jr. Ag.	212 1911, Box 3752	Macesfield, N. C.
Webb, J. W.	Fr. Ind. Arts	302 South, Box 3563	Charlotte, N. C.
Webb, W. B.	Fr. E. E.	606 Gaston St.	Raleigh, N. C.
Weber, C. P.	So. Tex.	10 Enterprise St.	Glen Rock, N. J.
Weeks, S. J.	Fr. Ag.	120½ Groveland Ave.	Varina, N. C.
Wehrenberg, J. H.	Jr. Tex.	2402 Everett Ave.	Bethel Hill, N. C.
Weisse, F. C.	Fr. For.	302 5th, Box 3226	New York, N. Y.
Weitlauf, G. W.	Sr. H. S. T.	223 1911, Box 3763	Pennsgrove, N. J.
Welch, C. D., Jr.	Fr. Tex. Mfg.	1922 Hillsboro St.	Cramerton, N. C.
Welch, S. B.	Fr. Tex.	333 7th, Box 5627	Cramerton, N. C.
Welfare, W. F., Jr.	So. Ag.	103 Chamberlain St.	Wilson, N. C.
Wells, S. P.	Fr. C. E.	217 South, Box 3549	Rocky Mount, N. C.
Wesson, W. T.	So. Ag. Ed.	111 7th, Box 3311	Elams, N. C.

<i>Name</i>	<i>Classification</i>	<i>School Address</i>	<i>Home Address</i>
West, R. R.	Fr. Tex. Mgt.	230 South, Box 3535	Moyock, N. C.
Westerfield, R. L.	So. For.	1907 Alexander Road	Raleigh, N. C.
Wetmore, E. H.	So. Ag. Ed.	112 Cox Ave.	Woodleaf, N. C.
Wetmore, P. H.	So. Ag.	211 Hawthorne Road	Woodleaf, N. C.
Wetzell, W. L., Jr.	Sr. Tex. C. and D.	309 Watauga, Box 3045	Gastonia, N. C.
Wheatley, C. H.	Fr. M. E.	126 South, Box 3526	Wilmington, N. C.
Wheatley, R. H.	Jr. Con. E.	116 Groveland Ave.	Wilmington, N. C.
Wheeler, N. H.	Fr. E. E.		Benson, N. C.
Whitaker, Bess, Miss	Spec.		
Whitaker, J. O.	Fr. Ag. E.	308 7th, Box 3374	Horse Shoe, N. C.
White, G. B., Jr.	Fr. C. E.	319 South, Box 3583	Asheville, N. C.
White, J. E.	Fr. For.	111 South, Box 3511	Andrews, N. C.
White, Julian E., Jr.	Fr. For.	309 Edenton St.	Raleigh, N. C.
White, L. R.	Fr. Ag.	304 7th, Box 3370	Bladenboro, N. C.
White, N. B.	Fr. Ch. E.	3011 Hillsboro St.	Manson, N. C.
White, R. J.	Fr. E. E.	107 South, Box 3243	Wilmington, N. C.
White, R. N.	So. Ag.	123 Brooks Ave.	Winston-Salem, N. C.
Whiteside, C.	Fr. Ag. Ed.	112 5th, Box 3212	Uree, N. C.
Whitfield, L. E., Jr.	So. M. E.	1806 Hillsboro St.	Asheboro, N. C.
Whitley, E. W.	Fr. Ag.	127 1911, Box 3737	Smithfield, N. C.
Whitley, H. S.	Jr. Arch. E.	304 Watauga, Box 3040	Williamston, N. C.
Whitley, M. R.	Fr. E. E.	305 4th, Box 3131	Washington, N. C.
Whitman, J. A., Jr.	Fr. For.	806 Williamson Drive	Raleigh, N. C.
Whitmire, E. J.	Jr. Ag. Ed.	118 1911, Box 3718	Brevard, N. C.
Whitney, J. B.	Grad. Ag.		
Whitsett, J. G.	Fr. E. E.	308 5th, Box 3232	Whitsett, N. C.
Whitson, C.	Fr. M. E.	104 South, Box 3504	Asheville, N. C.
Whitson, W. K.	Jr. Ch. E.	120 Forest Road	Asheville, N. C.
Whitted, D. R.	Fr. E. E.	127 South, Box 3527	Elizabethtown, N. C.
Whittington, J. M.	Fr. Ag. Ed.	120 Woodburn Road	Fuquay Springs, N. C.
Wicker, R. L.	So. C. E.	1620 Hillsboro St.	Sanford, N. C.
Widlitz, C.	Jr. Tex. Mfg.	201 7th, Box 3333	Rockville Centre, N. Y.
Wiggins, J. E., Jr.	Fr. For.	303 6th, Box 3263	Sunbury, N. C.
Wilburn, J. M., Jr.	So. Tex. Mgt.	Route 5	Raleigh, N. C.
Wilder, H. P.	Sr. E. E.	8 Maiden Lane	Aberdeen, N. C.
Wilkerson, H. D.	Fr. E. E.	13 South, Box 3609	Wilson, N. C.
Wilkinson, J. W.	So. C. E.	127 7th, Box 3327	Whiteville, N. C.
Willett, R. E.	Sr. Tex. C. and D.	120 W. Morgan St.	Raleigh, N. C.
Wiley, D. A., Jr.	So. Ag. Ed.	215 1911, Box 3755	Gates, N. C.
Wiley, J. F.	So. Ag. Ed.	215 1911, Box 3755	Gates, N. C.
Williams, A. R., Jr.	So. Tex. Mgt.	212 Watauga, Box 3030	Greensboro, N. C.
Williams, B.	Sr. Ag. Ed.	202 1911, Box 3742	Monroe, N. C.
Williams, E. A., Jr.	Jr. Cer. E.	109 Watauga, Box 3009	Swan Quarter, N. C.
Williams, J. E.	Fr. Tex.	2314 Hillsboro St.	Washington, N. C.
Williams, J. G.	So. M. E.	2706 Vanderbilt Ave.	Warrenton, N. C.
Williams, J. R.	So. C. E.	1806 Hillsboro St.	Arlington, Va.
Williams, L. F., Jr.	So. M. E.	1816 Park Drive	Raleigh, N. C.
Williams, L. H.	Fr. M. E.	1913 McCarthy St.	Raleigh, N. C.
Williams, M. B.	Sr. Ag. Ed.	2402 Hillsboro St.	Monroe, N. C.
Williams, N.	Fr. Ag. Ed.	2402 Everett Ave.	Beulaville, N. C.
Williams, Carl	Fr. Tex. Mgt.	101 South, Box 3501	Clayton, N. C.
Williams, R. B.	Fr. Ch. E.	320 South, Box 3584	Warrenton, N. C.
Williams, S. L.	Sr. Ag.	2008 Hillsboro St.	Mouth of Wilson, Va.
Williams, S. R.	So. E. E.	118 Hawthorne Road	Essex, N. C.
Williams, T. D., Jr.	So. Ch. E.	302 4th, Box 3128	Winston-Salem, N. C.
Williams, T. M.	Fr. E. E.	405 Calvin Road	Raleigh, N. C.
Williams, W. P.	Fr. M. E.	2615 Lockmore Road	Raleigh, N. C.
Willis, H. G., Jr.	Fr. Ag.	103 Wakefield	Arapahoe, N. C.
Willis, J. M.	Sr. E. E.	115 Watauga, Box 3015	Lumberton, N. C.
Willis, J. W.	Fr. E. E.	2304 Fairview Road	Raleigh, N. C.
Wilson, E. H.	Sr. Ag. Ed.	2512 Clarke Ave.	Blanche, N. C.
Wilson, G. H.	Jr. Ch. E.	College Court Apt.	Shelby, N. C.
Wilson J. P.	So. E. E.	17 Dixie Drive	Haw River, N. C.

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